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GENERAL VIEW OF BOSTON DOCK, STEEL WORK COMPLETED.

COMMONWEALTH PIER, BOSTON

Longest Passenger Piers in the Country, Constructed by Port Commissioners in Six Months.—General Plan of Structure.—Provisions for Passengers Most Complete in the United States.—Contractors' Methods.

To provide an exceptionally long pier for a new line of transatlantic steamers at five months' notice, is an undertaking which the Boston Port Commissioners have, within the time specified, brought sufficiently near to completion to answer the purpose intended. The Hamburg-American line arranged last fall to institute a regular service to Boston and planned to have the first steamer arrive in May, if a suitable dock could be provided. The Port Commissioners undertook to build a structure larger than any passenger and freight pier in the United States, at a site which was in part prepared. The contract for the work was signed on December 19 last and the first steamer, the *Cincinnati*, which arrived June 1, found the dock in condition to receive it.

The steps leading up to this accomplishment date back over a number of years and involved the acts of Federal, State and municipal authorities. For a long time the commercial interests of the city had desired to have a public pier at which the largest vessels could dock, and so situated that freight could be transferred directly from ship to railroad cars, as well as to the business section of the city by trucks over a short and convenient route. The Federal government has provided the channel, using for this work one of the largest dredges ever built. The city provided access to the pier for vehicles by building a

bridge across an inlet and paving a street so that, although the pier is on the old South Boston flats, it is readily accessible from the wholesale business district of Boston. The site selected was that of a former commonwealth pier, which was used mostly for railroad purposes. The old structure had burned and the property was little used. However, the railroad was there and so the third requirement was easily met.

When the contract for the work now going on was awarded to the H. P. Converse & Co., Boston, part of the foundation was prepared. The site for most of its length and breadth was filled in and walled. The harbor alongside had been dredged to its full depth of 40 feet, providing easy access from the water; but on the land side the ground was marshy and the immediate approach for teams was in bad shape and insufficient. Railroad tracks were in close proximity.

The work consisted in putting in new foundations, and building a steel frame and reinforced concrete structure two stories high, about 1,200 feet long and 400 feet wide. The first contract amounted to over one million dollars. A few weeks ago another contract for the head house was awarded; and there will be other contracts before all the present plans are carried out, such as for a power house for generating electricity by which all the me-



GENERAL VIEW BEFORE CONSTRUCTION BEGAN.

chanical equipment will be operated. There will also be a viaduct for vehicles leading to the upper floor where passenger business is to be handled, the lower floor being for freight.

At the present time the west side of the pier, leased to the Hamburg-American company, is being provided. The east side of the pier, head house and other structures may not be finished for six months or a year. However, the completed section will have what is considered as the finest passenger equipment of any pier in the United States.

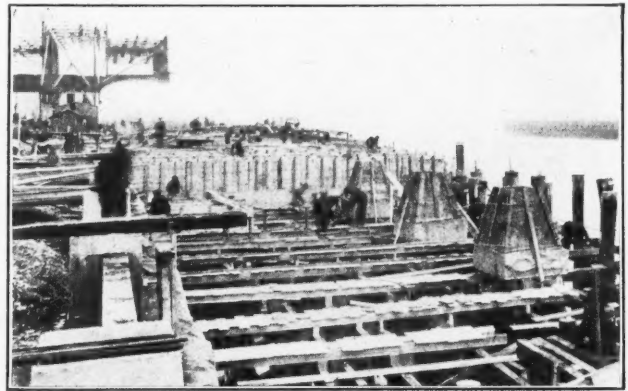
The pier is divided into three sections longitudinally, each section covered by a two-story shed, and each of these longitudinal sections is divided into three parts by fireproof cross partitions, the doorway openings in which are closed by rolling steel shutters. In addition to these three sheds, there is at the street end a head house across the entire end of the pier and 207 feet 9 inches deep, devoted to offices, waiting rooms, baggage rooms, rooms for storing perishable goods, etc. Steamers can dock along either of the outer sheds, which are connected with the middle shed by bridges at intervals of from 50 to 100 feet on the second floor level. Running between the middle shed and each of the outer ones is a double line of railway tracks, which another single line of track runs between each edge of the dock and the outer face of the shed, where an unroofed space of 19 feet 9 inches is left. The double lines of track are depressed so as to bring the floors of the freight cars on a level with the floor of the dock. Each of the outer sheds is 100 feet wide, and the middle shed 120 feet wide, while the light wells between the sheds are 20 feet wide. At present only the middle shed and one of the side sheds is being constructed, the other side shed and the head house being left until later.

The floor of the first or ground story of the dock is paved with 10 inches of concrete, covered with bitulithic. The second floor is of granolithic in the middle shed and bitulithic in the side shed, each supported by a reinforced concrete floor. This floor is supported by a series of 5-foot steel girders at 20-foot intervals supported by four lines of steel posts, the span thus being about 33 feet in the side shed and 40 feet in the middle shed. These posts continue through to and support the

roof. The head room from the floor to the underside of the girders on the first floor is 22 feet 8 inches. On the second floor it is 24 feet 4 $\frac{3}{4}$ inches in the middle bay, and 15 feet at the outer ones. Flush with the outer face of the outer shed and resting on the roof is a trestle which supports a conveyor galley, in which is a track at an elevation 80 feet above the dock floor, on which the conveyor can travel from one end of the dock to the other.

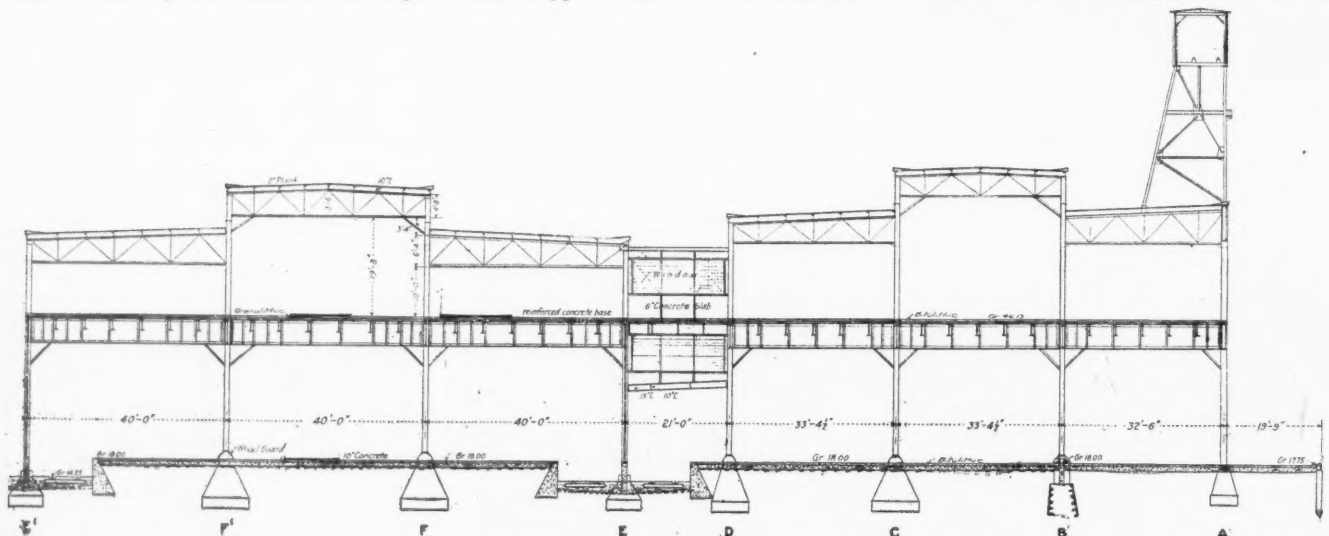
In the front of the head house on the ground floor are three team entrances 22 feet wide, also entrances for the two lines of double tracks referred to. On each side of the entrances are rooms for offices, shower baths, toilet rooms, etc. About 208 feet in from the front of the building is the first partition, provided with three openings in each shed; 320 feet further is the second partition, which also contains openings, both wide and narrow, and 320 feet beyond this is the third set of partitions. In each of the three sections into which each pier shed is thus partitioned are elevators and stairs.

The first floor is for the dock officials and employees and the handling of freight, while the second floor is



FOUNDATION PILES AND CAPS.

arranged especially for the passengers. This may be reached by employees by stairs and elevators from the first floor, but passengers will use a viaduct on the level with the second floor which crosses Northern avenue to Summer street. This viaduct leads first to a concourse 60 by 290 feet, from which seven doors open into a vestibule, from which in turn entrances lead to two baggage rooms, two waiting rooms, and through a broad passage to the central shed. In the second floor of the head house are also to be found offices, cloak rooms, toilet rooms, etc. The second floor, like the first, is divided into three sections in each shed by fireproof partitions, and in each of these sections are the upper ends of the



CROSS SECTION OF PIER.



VIEW SHOWING FRONT OF MIDDLE SHED AND ONE SIDE SHED, MAY 1.

elevator and stairway shafts referred to in describing the first floor. In the front section of the middle shed is the U. S. Customs office. In the third partition, or that furthest from the front, in the middle shed, are facilities for handling emigrants, consisting of a detention room with toilet and waiting rooms connected, and examination lines which provide for 22 inspectors and the same number of lines of emigrants.

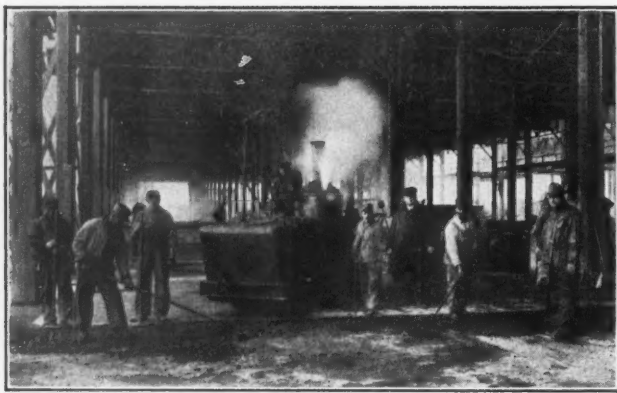
The contract includes 2,120 oak piles, 6,150 spruce piles,

1,500 cubic yards of concrete, two-thirds of which is reinforced, 1,040,000 pounds of steel rods, 200,000 cubic yards of excavation, nearly 7,000 tons of structural steel, rods, bolts, etc.; besides large amounts of lumber, glass, paving, etc.

The contractor's scheme of work was to have his bulky materials—sand, stone and gravel chiefly—delivered onto the pier on the east side from lighters. Steel came in cars at the north end. There were, by the way,



UPPER FLOOR, APRIL 26.



LOWER FLOOR; LAYING PAVEMENT, APRIL 15.

150 cars of steel on hand at one time. The first work to be done was, of course, the driving of the piles. This work was sublet to the John T. Scully Foundation Company, which drove 4,054 piles, or 146,000 lineal feet, in 124 working hours, in 19 days, using eight pile drivers.

Spruce piles were used in the section of the pier already filled in. In the overhanging section oak piles were driven. Granite caps weighing 17 tons were placed on top of groups of 24 piles each, to carry the steel columns of the portion of the pier overhanging the water. The concrete flooring was reinforced on the Kahn system. The contractor has two concrete plants, including belt conveyor for cement, derricks to handle the grab buckets elevating the sand, stone and gravel, storage bins and Smith and Chain Belt mixers. The concrete was dropped into cars and carried to place over tracks. The hoisting engines, screens, mixers and in fact all mechanical appliances, were operated by electricity. To explain the exact method of procedure of the whole work would be impossible. With as many as thirty-eight sub-contractors working at one time, definite systems could not always be followed. The excavations for water pipes, drains and sewers also complicated the work.

In laying the bitulithic pavement, which covers most of the two floors, portable plants, located on the ground floor were used. The steam roller was lifted directly to the upper floor, which was laid first, by a floating derrick.

The bitulithic mixture was discharged into concrete carts which were hoisted to the upper floor and pushed to the work by hand. There were no special peculiarities or difficulties about the actual laying of the pavement, the concrete floor always affording a firm bed and the grades being marked on convenient steel columns. Getting the materials to the plant was the greatest difficulty. Some were delivered on cars to the north of the dock and some were handled by the general contractor's derricks. The general principle of delivering the material near the work well in advance was adhered to. In this way whenever a section of the flooring was clear from obstructions it was possible to cover it rapidly. For instance, nine thousand yards was laid in one run of ten days.

PAVING BRICK TESTS.

May 20, 1913.

Editor, Municipal Journal, New York City.

Dear Sir: It was not my desire to enter into any arguments in regard to the testing of paving blocks, but from articles I have seen printed lately I feel that it is my duty to write a few lines in order to right a wrong impression which may have been left upon uninformed public officials and others.

Up until a few years ago cities and towns did not compel the manufacturer to have his paving block come up to a certain quality, but let contracts for streets to the lowest block bid upon. This method soon proved that it was essential to adopt some test in order to eliminate the poorer grades of pavers, especially from the heavy traffic streets. Under the low bid method without test, manufacturers were compelled to sacrifice quality for quantity in order to meet the cheap competition. At the time of the adoption of the standard test many of the manufacturers were unprepared to meet the more rigid specifications and consequently have either avoided the cities adopting the rattler or have done all they could to taboo it. It is a mystery to me why a brick manufacturer should condemn a method for selecting good pavers when by so doing he is condemning good brick pavements. There should not be such a thing as a bad brick street, and the manufacturers should see the necessity of eliminating the poorer quality of brick in order to make the brick pavements more popular. It is true, one can see good streets which were constructed with a low grade paver (one standing a poor rattler test) and bad streets made of tough paving blocks, but had the construction been the same in both cases there is no doubt in any informed person's mind that the tougher block would eventually outwear the inferior testing one. Bad streets are not the fault of the brick in many cases, and I believe a 24% or a 26% block carefully selected, if put in medium travelled business or residence streets under good construction, would give entire satisfaction, but for heavy traffic streets and for cities wanting the best a 22% or even a 20% maximum testing brick is not unreasonable.

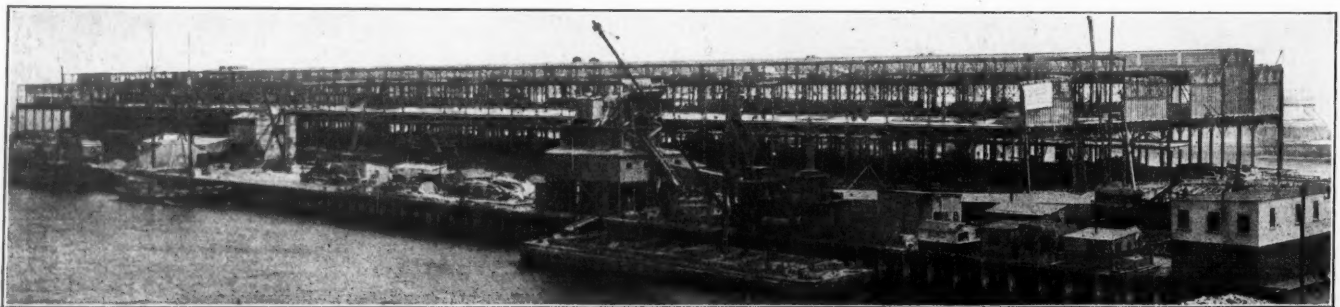
"A brick is a brick," but some are better than others. Since quality is beginning to count, it is up to the manufacturer to improve his product. It is right that the better quality should bring the better price.

Yours very truly,

JOHN R. ROOT.

DES MOINES' NEW MARKET.

A city market in a new market house costing \$50,000 was opened in Des Moines on May 15th, and is said to be attracting an encouraging number of purchasers. The building is a two-story structure, is substantially built, but which has received considerable unfavorable criticism from an artistic point of view, as well as from the fact that it is on two floors and should have been confined to the ground floor. The second floor contains a refrigerating plant. The city will be expected in this market to set an example in enforcing the new law which takes effect July 4th, requiring all markets and grocery stores in the city to protect the food displayed from flies, dust, and dirt. It is said that the better class of grocers in the city are highly pleased with this new law, and are arranging to observe it both in spirit and letter.



GENERAL VIEW, MAY 10, SHOWING STONE CRUSHER AND CONCRETE MIXER.

STREET WORK IN SPOKANE

Segregated Unit Costs Obtained.—Street Cleaning by Machine Sweepers, Flushers and Hand Sweeping.—Operation of Municipal Repair Plant.

The report for the year 1912 of the Department of Public Works of Spokane, Washington, of which D. C. Coates is commissioner, is one of unusual interest because of the definite information which it gives, as well as of the interesting work which is being carried on by the department. In our issue of February 13, Mr. Coates described some of the sewer construction work which is being done by the department by day labor, and this report gives data concerning street construction and repair as well as street cleaning which is carried on in the same way. Comparisons of cost of street grading and paving under the contract system during the years 1910 and 1911, and under municipal construction in 1911 and 1912, show a saving of from 14 to 46 per cent in favor of the latter. Among other work done by day labor was the excavating of the basement for the new City Hall, reconstructing sidewalks and erecting retaining walls. As an illustration of the manner in which the accounts of this work are kept and reported, we give herewith the figures for one of these retaining walls.

ERECTING RETAINING WALL ON ADAMS STREET.

	345 Cu. Yds. in Wall.	Unit Cost.
Tools and equipment.....	\$6.00	\$0.0174 per cu. yd.
Removing old wall.....	15.48	.0450 per cu. yd.
Excavating	881.94	2.5563 per cu. yd.
Laying wall	683.43	1.9810 per cu. yd.
Cement	193.80	.5610 per cu. yd.
Sand and rock.....	68.80	.2000 per cu. yd.
Lumber	30.70	.0890 per cu. yd.
Cleaning up	73.50	.2130 per cu. yd.

Totals\$1,953.65 \$5.6627 per cu. yd.

Omitting "removing old wall" and "excavating" this gives \$3.06 per cubic yard of wall built.

The Department of Public Works distributes its work among the divisions of Street, Bridge, Yard, Sewer, Garage, Asphalt and Public Works. The Street Division has charge of the repairing of graded streets and the cleaning and sprinkling of paved streets. Perhaps the most instructive portion of the report is that devoted to street cleaning, and we give that complete as published:

STREET CLEANING.

The problem of thoroughly cleaning the paved area at a minimum cost presents more difficulties than any other phase of departmental activities. Experience has proven that flushing is the best method, measured by efficiency and cost, but owing to freezing weather, this method can only be used for approximately 6½ months per year. During the balance of the year it is necessary to resort to sweeping with horse-drawn brooms. In following this method in frosty weather it is desirable to use as little water as is possible in order that we may avoid complaints from horse-owners on account of slippery pavements. On the other hand, we are the recipients of many complaints from pedestrians and shopkeepers because of insufficient sprinkling.

With the hope of meeting the objections of both team owners and shopkeepers, the Department early in the year purchased a motor-driven street cleaning machine which sprinkled, swept and picked up the sweepings in one operation. Experience so far had with this machine shows that while the actual cost of sweeping is less than half of the cost of horse-drawn brooms, yet the upkeep cost of the motor-driven machine is so great as to make no appreciable saving in cost, while the construction of the machine is such as to preclude economical operation during much of the year.

Owing to the unprecedented increase in paved area the problem of cost has been a most important one. By reference to the table of comparative costs it will be seen that while it cost in 1910 the sum of \$96.27 to keep 1,000 square yards clean, this cleaning was done in the year 1911 for \$66.79, and in 1912 for \$46.68 per 1,000 square yards. A large part of the saving here shown is due, we believe, to systematizing the work and through the medium of daily reports keeping in close touch with the operations. But for increased efficiency as shown in cost of cleaning, the increased area would have necessitated an additional appropriation of at least \$50,000 over that expended in 1910. As shown in this report but \$6,577.93 was expended over the sum expended in 1910. The following is a statement of cost during the year 1912:

Total area of street cleaned by sweepers and flushers	1,283,713 sq. yds.
Total area cleaned by White Wings (hand cleaning)	206,008 sq. yds.
Total area cleaned	1,489,721 sq. yds.
Total area of district cleaned by sweepers, 6½ months	1,283,713 sq. yds.
Total area cleaned by sweepers, 5½ months* ..	477,584 sq. yds.
Total area cleaned by flushers, 5½ months* ..	806,129 sq. yds.
Total amount of debris removed.....	10,445 cu. yds.

HORSE POWER SWEEPER.

Area swept to keep this district clean.....	100,785,638 sq. yds.	Cost to Clean Once per 1,000 Sq. Yds.
Sweeping—		
Hired teams and teamsters.	\$9,226.90	
Use of city teams.....	806.80	\$10,033.70 \$0.09955
Pilers	\$9,954.60	9,954.60 .09885

Pick up—		
Hired teams and teamsters....	\$5,418.75	
Use of city teams.....	628.80	
Auto truck driver and helpers... 2,276.03		
Auto truck rental (city).....	2,231.70	10,555.38 .1047

Sprinklers—		
Hired teams and teamsters.....	\$2,090.00	
Use of city teams.....	3.75	2,093.75 .020776

Maintenance of Sweepers—		
Labor	\$304.85	
Material	825.42	1,130.27 .011215
Totals, horse sweeping.....	\$33,767.70	\$0.335091
Cost to clean 1,000 square yards once, 33½c.		

GASOLINE POWER SWEEPER (ONE USED AS EXPERIMENT).

Area swept to keep this district clean.....	6,090,518 sq. yds.	Cost to Clean Once per 1,000 Sq. Yds.
Sweeping—		
Operator and helper.....	\$420.00	\$420.00 \$0.06896
Pilers	\$485.25	485.25 .079672

Pick up—		
Hired teams and teamsters.....	\$18.00	
Use of city teams.....	10.50	
Auto truck driver and helpers.. 195.07		
Auto truck rental (city).....	164.75	388.32 .06375

Maintenance of Sweepers—		
Labor	\$311.83	
Gasoline	145.00	
Oil	19.36	
Repairs	247.85	724.04 .10250

Totals, auto sweeping.....	\$2,017.61	\$0.314882
Cost to clean 1,000 square yards once, 31.4c.		
Total area swept by horse and power sweepers to keep this district clean, 106,876,156 square yards.		

*The district, 1,283,713 sq. yds., was divided between sweepers and flushers as shown above. Flushers being in service 5½ months.

Since keeping 1,283,713 square yards clean for 6½ months and 477,584 square yards clean for 5½ months, involved sweeping a total area of 106,876,156 square yards, this district was covered 110 times during the year at a cost of \$36.89 per 1,000 square yards, or \$35,785.31.

CLEANING BY FLUSHERS.

Total area of district kept clean..... 806,129 sq. yds.
Total area flushed to keep this district clean...70,381,682 sq. yds.

			Cost to Clean Once per 1,000 Sq. Yds.
Flushing—			
Hired teams and teamsters.....	\$8,459.51		
Use city teams.....	950.50	\$9,410.01	\$0.1336
Pilers	\$9,052.23	9,052.23	.1286
Pick up—			
Hired teams and teamsters.....	\$1,415.50		
Use city teams.....	840.75	2,256.25	.03206
Maintenance Flushers—			
Labor	\$114.67		
Material	127.34	242.01	.003438
Total flushing		\$20,960.50	\$0.297698
Cost to clean 1,000 square yards once, 29.7c.			
Cost to keep clean—			
Flushing	\$9,410.01	\$0.01167	per sq. yd.
Pilers	9,052.23	.01123	per sq. yd.
Pick-up	2,256.25	.002799	per sq. yd.
Maintenance	242.01	.0003002	per sq. yd.
Totals	\$20,960.50	\$0.0259992	per sq. yd.
Cost to keep 1,000 square yards clean, \$26.00.			

Since keeping 806,129 square yards clean involved flushing an area of 70,381,682 square yards this district was covered 87.31 times during 5½ months at a cost of \$26.00 per 1,000 square yards, or \$20,960.50.

WHITE WINGS OR HAND CLEANING.

Total area of district kept clean..... 206,008 sq. yds.
Total area cleaned to keep this district clean...63,886,054 sq. yds.

			Cost to Clean Once per 1,000 Sq. Yds.
Patrol	\$17,528.49	\$17,528.49	\$0.2744
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Pick-up—			
Hired teams and teamsters....	\$1,486.50		
Use of city teams.....	596.50		
Auto truck driver and helpers.....	10.50		
Auto truck rental (city).....	24.50	2,118.00	.03316
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Maintenance Tools—			
Labor	\$200.33		
Material	178.85	379.18	.005936
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Totals, hand cleaning.....		\$20,025.67	\$0.313496
Cost to clean 1,000 square yards once, 31.4c.			
Cost to keep this district clean—			
Patrol	\$17,528.49	\$0.08509	per sq. yd.
Pick-up.....	2,118.00	.01028	per sq. yd.
Maintenance	379.18	.00184	per sq. yd.
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Totals	\$20,025.67	\$0.09721	per sq. yd.

Since keeping 206,008 square yards clean involved cleaning an area of 63,886,054 square yards this district was covered 310 times during the year at a cost of \$97.21 per 1,000 square yards, or \$20,025.67.

Total street cleaning for the year 1912 showing the average unit costs to clean the streets of Spokane for the year 1912:

Total area of paved streets cleaned.....	1,489,721 sq. yds.		
Total area covered to keep clean.....	241,143,892 sq. yds.		
Cost to keep clean for one year—			
Cleaning	\$68,037.33	\$0.04567	per sq. yd.
Auto rental	2,420.95	.001625	per sq. yd.
Use of city teams.....	3,837.70	.002577	per sq. yd.
Maintenance	2,475.50	.001662	per sq. yd.
Totals	\$76,771.48	\$0.051534	per sq. yd.
Total average cost to keep clean, \$51.53 per 1,000 sq. yds.			
Total average cost to clean once, 31c per 1,000 sq. yds.			

RATE OF WAGES PAID.

General foreman	\$150.00	per month
Sub foreman	95.00	per month
Hired teams with teamster.....	6.00	per day
Teamsters	3.00	per day
Use city teams.....	1.50	per day
Laborers	3.00	per day
Rental city auto truck.....	7.00	per day
Truck driver and helpers.....	3.00	per day

Although the appropriation for street cleaning for 1912 was \$95,163.50, the total expenditure was only \$69,533, or less than 75 per cent. of the appropriation.

Last year a new division was inaugurated to take care of motor-cycles, bicycles, the power street sweeper and the trucks which are motor-driven, and which are used by the several departments of engineering, public works, water, plumbing, police, crematory, health and electric. The vehicles maintained included 12 touring cars and runabouts, 2 trucks, a sweeper, a roller, motor-cycles and 6 or more bicycles. There was expended during the year in maintaining these \$2,313.61 for gasoline, \$271.73 for oil, \$800.20 for miscellaneous supplies, and under the head of repairs, \$3,283.66 for tires, \$4,699.11 for miscellaneous repairs and \$4,646.40 for labor a; total expenditure of \$16,014.71. Of this, about \$2,030 was spent on equipment, and \$863 was overhead charges. The highest expenditure for tires on a single automobile was \$654.72. The highest expense for gasoline was \$618.05 for one of the trucks, and the maximum for oil was \$45.80 for the same truck. The maximum total expenditure for any one machine was \$1,695.08 for a touring car; the next was \$1,524.70 for the same truck, and another touring car reached \$1,435.29.

STREET REPAIRING.

The report of the asphalt division gives figures which show a saving of approximately 33 per cent. over the cost of maintaining the pavements under the contract system. Besides maintaining pavements which were under city charge, the department contracted to repair those portions charged to the public service corporations, as well as doing other paving for private parties. This work was done as nearly at cost as possible, but the report shows that a profit of \$3,067.56 was made from it. The department used the city plant as a competitor on paving work and this undoubtedly reduced the bids of paving contractors on work which it did not itself perform. Commissioner Coates says that "while it may not be desirable for the time being to eliminate the contract system completely, yet the tendency of modern municipal government is to extend its activities to paving, grading, crosswalking and sidewalk streets, constructing sewers, water mains, bridges, etc., and this department is in sympathy with such tendency." The receipts and expenditures of the asphalt division for the year are given in the table herewith. The paving maintenance which is given as costing \$14,234.63 (this sum being obtained by subtracting from the total expenditures the total receipts for the year) consisted of 255 yards of brick repairs, 97.2 yards of basalt blocks, 218.9 yards of concrete base, and 5,307.2 yards of binder and top; in addition to the general maintenance of the pavements which, had the old contract been continued, would have cost \$12,973.57.

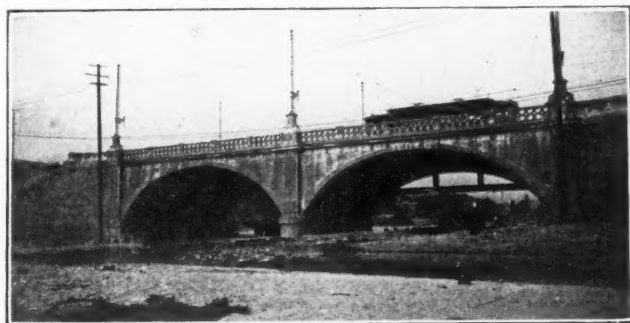
RECEIPTS AND EXPENDITURES.

Value of plant Jan. 1, 1912.....	\$16,871.39
Value of equipment and buildings, Jan. 1, 1912.....	3,486.51
Value of material on hand Jan. 1, 1912.....	1,663.50
Value of work partially completed Jan. 1, 1912.....	1,000.00
Bills receivable Jan. 1, 1912.....	7,839.65
Bills payable Jan. 1, 1913.....	None
Total expenditures 1912 from Department ledger....	87,430.44
Brick charged on Milwaukee contract and credited to estimate	8,311.63
Interest on original plant investment, 5% of \$17,759.36	887.97
Value of plant, Jan. 1, 1913.....	\$15,983.42

Value of equipment and buildings Jan. 1, 1913	3,534.17	
Value of material on hand Jan. 1, 1913 ..	1,680.03	
Value of work partially completed Jan. 1, 1913	None	
Bills receivable Jan. 1, 1913	8,659.21	
Bills payable Jan. 1, 1912	1,665.45	
Bills payable Jan. 1, 1913	382.46	
Total receipts year 1912 from Department ledger	68,742.19	
Work done by order City Council—		
Fife Bros. & Kennedy sewer cut	369.20	
Repairs to Grand Blvd.	834.85	
Helena street and sidewalk grade	730.00	
Monaghan monument sidewalk	37.65	
Ash street sidewalk and curb	1,284.55	
Sidewalks reported on assessment rolls ..	1,041.65	
Brick charged on Milwaukee contract and credited on final estimate	8,311.63	
Net cost of paving maintenance	14,234.63	
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	\$127,491.09	\$127,491.09

CONCRETE BRIDGE IN LOS ANGELES.

Among the artistic bridges of concrete built in the last few years by the city of Los Angeles the one over the Arroyo Seco at Avenue Twenty is particularly attractive. With the installation of the electric light globes, the last touch has just been made to the work. The two-span bridge was built at a cost of \$33,977 of which the city paid about \$20,000, the balance being paid by



COMPLETED BRIDGE, SHOWING SEWER SUSPENDED UNDER ARCHES.



TROLLEY POLE AND LIGHT STANDARD.

the Los Angeles Railway Corporation which runs its cars over it. This bridge takes the place of two structures formerly in use, one a bridge for general traffic and the other a trestle for a single car track. The old bridge, which occupied the same position the new one now does, was in use for a great part of the time that the concrete was being poured; in fact the scaffold and tower used in pouring the concrete was supported in part by it. The advantage of keeping the old highway open to traffic as long as possible was that the only alternative route available was over bad roads and required quite a detour.

The sand and gravel for this concrete was secured from the stream bed, as the illustration shows, and



CONCRETE DISTRIBUTING TOWER, SHOWING PART OF OLD BRIDGE.

Getting gravel and sand from river bed. Wing wall at right.

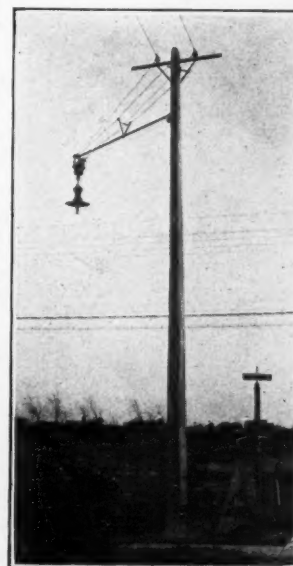
delivered direct to the screens and thence to the mixers, an economy in procuring raw material that few bridge builders can expect. It will be observed that the upstream side of the bridge is flanked with walls of solid concrete extending like wings from the abutments and reaching well up into solid ground. This is to prevent the high water of this treacherous stream from cutting away a large section of the bank and destroying the approach to the bridge.

Another interesting feature of the bridge is the method of carrying the sewer pipes across the stream at the gradient line rather than by an inverted siphon. This is accomplished by suspending them from the arches, as the view of the completed bridge indicates. The trolley wires and the electroliers are carried on reinforced poles of concrete. The lighting and ornamental work cost an additional \$3,000 and is of high artistic merit.

CONCRETE SIGN AND TELEGRAPH POSTS.

In Oklahoma City most of the recent posts used for supporting street signs, wires and mast arms for arc lights are being constructed of reinforced concrete. These posts appear to be durable and certainly present a very neat appearance. The posts used for signs are reinforced with four quarter-inch bars extending the full length of the post. A square three-quarter-inch rod about 3 feet long is cast in the axis of the post at the top, extending about 18 inches above the top of the post, and to this rod are fastened the boards or plates containing street names.

While many of these sign posts are being placed throughout the city, the practice of placing the street name in the sidewalk by imbedding tile letters therein is being tried. In most of the down-town streets, the sidewalk is elevated 12 to 18 inches above the roadway on account of the large amount of water carried in the latter at times, and this necessitates steps from the sidewalk to the roadway at each street crossing. Where these steps exist, the tile street names are placed in them rather than in the sidewalk proper.



LIGHT AND WIRE POST SIGN POST IN THE DISTANCE.

MUNICIPAL REFERENCE LIBRARIES.

Mention has been made in these columns from time to time of municipal reference libraries. Without attempting to go into detail it may be said that these institutions are steadily increasing in number and usefulness, their functions being to collect and preserve for immediate reference all manner of information relating to municipal affairs. Such libraries become mines of highly specialized data, and inasmuch as one of their main duties is to act as information bureaus for the aid of other cities and for associations and individuals, a list of these libraries may be of value here:

Chicago, Ill. Municipal Reference Library, 1005 City Hall. Librarian, Frederick Rex, formerly assistant City Statistician. Supported by the city.

Philadelphia. Bureau of Contracts and Statistics, City Hall. Chief, Edward James Cattell. A city institution.

St. Louis, Mo. Municipal Reference Library, 206 City Hall. Librarian, Andrew Linn Bostwick. A branch of the St. Louis Public Library.

Cleveland, O. Department of Municipal Research, Mayor's Office, City Hall. Earl H. Wells, in charge. A city institution.

Baltimore, Md. Department of Legislative Reference, City Hall. Horace E. Flack, Executive. The oldest municipal reference library. A city institution, under control of a Board of Trustees.

Milwaukee, Wis. Municipal Reference Library, City Hall. Librarian, Leo Tiefenthaler. A branch of the Public Library, but supported by special city appropriation for the branch.

Minneapolis, Minn. Municipal Reference Department, Public Library. Miss Josephine Schain, Municipal Reference Librarian.

Kansas City, Mo. Municipal Reference Library, City Hall. Librarian, Charles Homer Talbot. Supported by the city. Controlled by the city through a Board of Trustees.

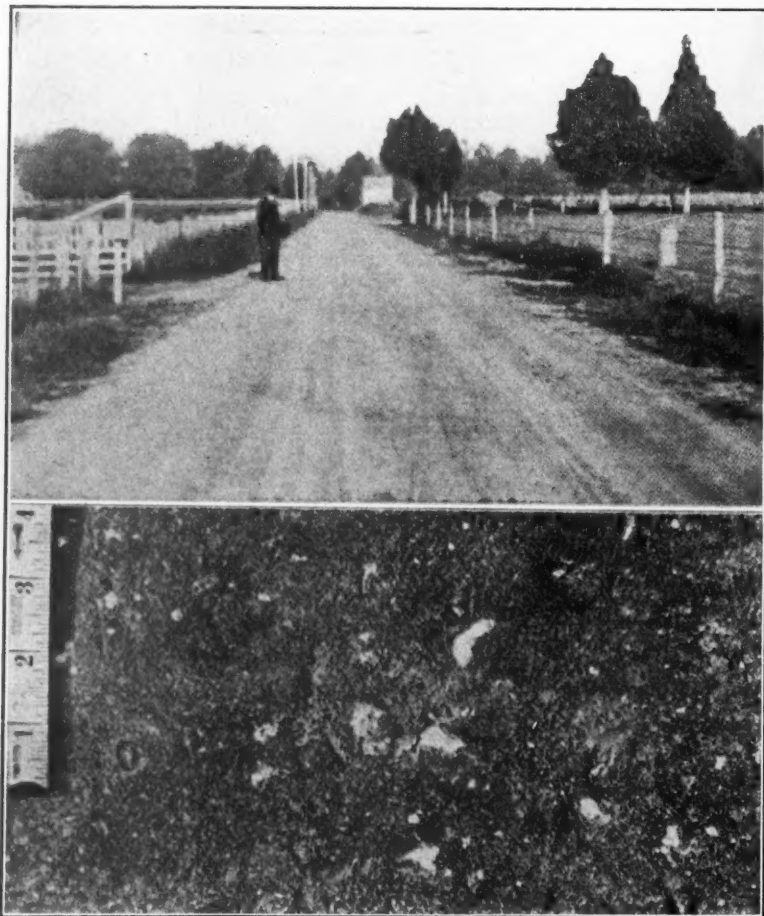
Portland, Ore. Municipal Reference Library, 322 City Hall. Just established by the Library Association of Portland.

Oakland, Cal. Municipal Reference Department, Oakland Free Library. Mrs. Emily H. Overstreet, Municipal Reference Librarian.

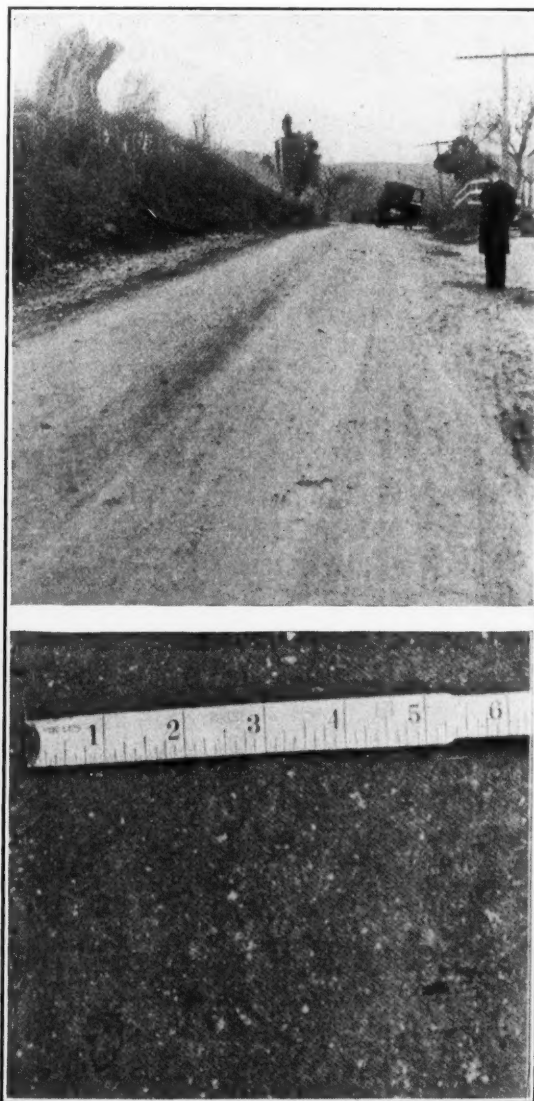
Practically all municipal reference libraries have made investigations and reports on many subjects of current interest, of which copies or digests are usually loaned or given on request.

PHOTOGRAPHS OF ROAD SURFACES.

In our issue of May 1 we reproduced several photographs showing a method of indicating the irregularities in a road surface by means of a flexible rope laid in a straight line across the road, but allowed to follow the irregularities of the cross section, which idea is, we understand, a novel one. We believe Municipal Journal was the first periodical to endeavor to give an idea of a street surface by a photograph taken with the camera placed near the surface and pointed vertically. We show herewith the reproductions of photographs used by the Maryland State Roads Commission, which combine the advantages of the latter method with a photograph



WATER-BOUND LIMESTONE MACADAM WITH SURFACE TREATMENT OF ASPHALTIC OIL AND SAND.



WATER-BOUND GRAVEL MACADAM WITH SURFACE TREATMENT OF ASPHALTIC OIL AND FINE GRAVEL.

showing the general appearance and surroundings of the road. Where both the close vertical view and the general view are taken by an experienced photographer, the reader is able to obtain a much better idea of the road surface than was possible by the older methods of photographing. We would suggest that the addition of the rope, as used in Queens Borough, in the foreground of the general photographs of the roads would give about as complete an idea of the surface of a given road as it is possible to give, except in those cases of artificially bonded road surfaces where it is possible to show photographs of sawed sections of the surface, which would furnish additional information as to structure.

Probably no structure makes so unsatisfactory a photograph as a good road, for all when dry look very much alike and almost any sheet pavement will show numerous puddles after a rain. We therefore recommend that road commissioners, city engineers, etc., use these methods in illustrating their reports.

RUBBISH CANS FURNISHED BY CITIES.

By ANDREW LINN BOSTWICK, Municipal Reference Librarian, St. Louis.

An investigation was recently made by the Municipal Reference Branch of the St. Louis Public Library on the subject of municipal rubbish or waste cans. The points concerning which information was sought were the capacity and cost of the cans, how they were placed on the street, how often they were emptied, and what city department had charge of the matter.

Replies were received from fourteen cities, including practically all of the largest municipalities of the country. Three cities in the list furnish no cans at all. Capacities vary considerably, and costs range from \$2.48 in Cincinnati to \$8.50 for the large size can in use in Boston. In two cities the cans are emptied when necessary, in all other cases they are looked after at least twice a week, and very often daily. In all cities except one the cans

Rubbish Cans Furnished by Cities.						
City.	Capacity of cans.	Cost.	How placed.	How often emptied.	Dept. in charge.	
New York.....	4½ cu. ft.	\$4.50	Alone	When necessary	Dept. St. Cleaning	
Chicago		None	furnished.			
Philadelphia ...	5½ cu. ft.	\$2.85	Usually near poles	Daily	Bur. of Highways	
Boston	1.75 cu. ft.	4.00	Attached to poles	Daily	Street Cleaning	
	11.75 cu. ft.	8.50	Alone	Daily	Service of Highway Div	
Cleveland	50 lbs.	7.92	Alone	Semi-weekly	Div. of St. Cleaning	
Baltimore	5 bu.	2.75	Attached to poles	Daily to 3 or 4 times a week	Dept. St. Cleaning	
Pittsburgh	25 lbs.	5.00	Alone	Daily	Bur. Highways & Sewers	
Detroit	8½ cu. ft.	5.00	Against poles	Daily	Dept. Pub. Works	
Buffalo	4 bu. (bbl.)	4.00	Alone or against poles	Daily	Bur. Streets	
Milwaukee	1 bu. (box)	2.50	Against poles	Daily or semi-weekly	Div. St. Sanitation	
	2 bu. (can)	3.45	Alone	Daily or semi-weekly	Div. St. Sanitation	
Cincinnati	2½ bu.	2.48	Alone	Daily	St. Cleaning Dept.	
New Orleans....		None	furnished.			
Minneapolis	12 cu. ft.	\$6.00	Alone	When necessary	Street Comm'r	
Kansas City.....		None	furnished.			



PITCH MACADAM USING ASPHALT BY PENETRATION METHOD.
Flush coat in foreground, omitted in background.

are looked after by the Street or Street Cleaning Department, as would naturally be expected. Following is a summary of the report:

New York.—The Department of Street Cleaning has charge of the rubbish cans, which are placed by themselves. They are of 4½ cubic feet capacity, and cost \$4.50. They are emptied when necessary.

Chicago.—No cans are furnished by the city.

Philadelphia.—The Bureau of Highways is now placing 1,500 waste cans on various streets for the reception of waste paper and rubbish. These cans cost \$2.85, and have a capacity of about 5½ cubic feet. They usually stand near a pole or letter box. The street cleaning contractors are required to empty them daily. Specifications for these cans were furnished by the Bureau, as follows:

Body.—Body of can to be made of No. 24 gauge sheet iron, 30 inches high and 20 inches in circular diameter.

Bottom.—Bottom of can to be made of No. 20 gauge sheet iron with a 1-inch flange riveted to body and through a 13-ounce steel band 1¼ inches wide.

Top.—Top of can to be surrounded by a steel band 1½ inches by ¼-inch, well riveted.

Hood.—Can to be provided with a one-half protection hood, which overlaps the body 10 inches from center, and is 8 inches high above top of can. Hood to be made of No. 24 gauge sheet iron supported by No. 6 wire and well riveted between outside of can and iron band around top of can.

Handles.—Can be provided with two heavy forged handles made of ½-inch wrought iron 4 inches wide and with 2-inch space from can, fastened to body with four rivets per handle.

Stiffeners.—Can to be reinforced by four upright 3-ribbed steel staves made of No. 24 gauge sheet iron riveted to top and bottom bands of can. Staves to be symmetrically located on front of can, spaced about 6 inches apart.

Painting.—Cans to be given a heavy coat of green paint, and dry kiln baked, and stencilled "D. P. W. Bureau of Highways. For Waste Paper," in silvered letters on front of can.

Inspection.—All cans shall be subject to thorough inspection before they are placed upon the streets, and rejected cans shall be immediately removed.

Material Covered by Patents.—Should the contractor use any can or process covered by letters patent without the consent of the patentee or owner, he shall give a bond, in form to be approved by the City Solicitor, and satisfactory to the Director, Department of Public Works, indemnifying the city against any damages from the use thereof.

Payments.—Payments will be made by warrants on the City Treasurer upon bills approved by the Chief of the Bureau of Highways and Street Cleaning.

All ordinances and acts governing this class of contracts must be observed by the contractor.

Boston.—Both boxes and cans are furnished by the city. The former contain 1.75, and the latter 11.75 cubic feet, and cost respectively \$4.00 and \$8.50 each, painted and ready to set up. The small boxes are attached to poles or set up on posts, while the large cans stand alone. They are emptied daily, and are in charge of the Street Cleaning Service of the Highway Division.

Cleveland.—At present a private company has rubbish boxes on the downtown streets. The Department of Public Service is about to let a contract for 500 boxes to be placed in the outskirts of the city.

The rubbish boxes have a capacity of 50 lbs., and cost \$7.92. Each one contains a gunny sack. They stand by themselves, and are emptied semi-weekly.

Baltimore.—The Department of Street Cleaning has charge of about 300 waste paper and rubbish cans, each holding about five bushels. They are of sheet iron, painted green, and cost \$2.75 each. They are chained to telegraph poles or lamp posts. In the crowded sections they are emptied every night, elsewhere three or four times weekly.

Pittsburgh.—Rubbish cans hold about 25 lbs., and cost \$5.00 each. They are placed by themselves, and are looked after daily by the Bureau of Highways and Sewers.

Detroit.—The Department of Public Works turns out in its own shops square rubbish cans of 8 1/3 cubic feet capacity, at a cost of \$5.00. These cans are placed against poles and are emptied daily.

Buffalo.—Large barrels for waste are made by a cooper in the employ of the city. These barrels are placed in the congested districts, alone or by poles. Their cost is about \$4.00, and they hold about 4 bushels. They are emptied daily and are looked after by the Bureau of Streets.

Milwaukee.—The Division of Street Sanitation, Department of Public Works, has charge of waste paper boxes and refuse cans. The former cost \$2.50, hold about one bushel, and are fastened to poles. The latter cost \$3.45, hold about two bushels, and stand by themselves, being intended for street refuse. In the downtown section the boxes and cans are emptied each day; in the rest of the city, semi-weekly.

Cincinnati.—The Street Cleaning Department has charge of the rubbish cans, which are made by a local galvanizing company at a cost of \$2.48 each. They hold

about 2½ bushels, stand by themselves and are emptied daily.

New Orleans.—No cans are furnished by the city.

Minneapolis.—Cans have a capacity of 12 cubic feet, and cost \$6.00. They stand alone, and are emptied by the Street Commissioner's Department as often as may be necessary.

Kansas City, Mo.—No rubbish cans are furnished at the present time. Some time ago the city supplied square tin cans or boxes, but these were later discarded, one of the objections being that pedestrians tore their clothes on them.

ASH HAULING IN ST. LOUIS.

Statistics compiled by the St. Louis Street Department with regard to the city's disposal of its own ashes show the total cost for inspection, hauling and dumping in December was \$2.21 per load. In January, the number of loads was increased by more than 1,000 and the cost dwindled down to \$2.11 per load.

This is the first winter during which the city has hauled and disposed of its ashes. Eighty-five new wagons were bought last fall. They were described in the issue of the Municipal Journal for November 21, 1912. All of these wagons have not been placed in use for the hauling of ashes. While many complaints were received when the hauling was introduced, the number is steadily decreasing.

During December, 925 telephone calls were received, some of the parties wishing to register complaints and others desiring to be informed as to some feature of the service. Seventy-five letters were received and answered, making a total of 1,000 complaints and inquiries. This number was decreased in January, the total number of telephone calls being 700 and the number of letters 40, making a total of 740 complaints and inquiries.

The statements of the department, showing a comparison of the cost of operating the new system, during December and January, are as follows:

Payroll:	December.	January.
Inspection	\$1,125.50	\$1,253.96
Clerk	60.00	62.00
Dump men	519.13	665.26
Drivers	1,612.00	1,695.50
Hired teams	2,680.00	3,394.00
Helpers	2,957.00	3,545.00
Payroll	\$8,953.63	\$10,615.72
City teams	1,650.00	1,808.00
	\$10,603.63	\$12,423.72
Dump privilege	2,038.25	2,300.25
	\$12,641.88	\$14,723.97
Number loads hauled	5,714	6,928

	—December.—		—January.—	
	Cost.	Loads.	Cost.	Loads.
To United Rys. Co., at 80 cts.	2,331	\$1,864.80	2,579	\$2,063.20
To Burd ave. dump at 10 cts.	527	52.70	733	73.30
To Wiggins Ferry Co., at 25 cts.	483	120.75	655	163.75
Free dumps	2,373	2,961
Totals	5,714	\$2,038.25	6,928	\$2,300.25

	Dec.	Jan.
Total cost, inspection, hauling, dumping, city teams, hired teams, etc., per load	\$2.21	\$2.11
Average No. loads per day, city teams...	4.6	4.15
Average No. loads per day, hired teams ..	3.64	3.79

Mr. Travilla estimates that ten city teams will do as much work as eleven hired teams.

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CHANGE OF ADDRESS

Subscribers are requested to notify us of changes of address, giving both old and new addresses.

Contributions suitable for this paper either in the form of special articles or of letters discussing municipal matters, are invited and paid for. Subscribers desiring information concerning municipal matters are requested to call upon MUNICIPAL JOURNAL, which has unusual facilities for furnishing the same, and will do so gladly and without cost.

JUNE 5, 1913.

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The Municipal Bond Market.

A number of cities have found difficulty during the past few months in marketing bonds with which to carry on improvements, and the reason for the absence of enthusiastic demand for municipal bonds is a matter of considerable interest to many cities at this time. About two weeks ago, New York City sold forty-five million dollars of long term bonds, and received bids for a considerably larger sum; but the offer was unusually advantageous, the bonds being $4\frac{1}{2}$ per cent tax exempt, and sold at an average price of 100.159, or on an average income basis of about 4.49. Moreover, these bonds were sold "over the counter," that is, in comparatively small lots to nearly 500 purchasers instead of to two or three purchasers only, as is more commonly the case. A year ago the city sold sixty-five million dollars of $4\frac{1}{4}$ per cent bonds, and has done considerably better than this in previous years. Concerning this sale, the editor of "The Financial World" says:

One feature about the bids that is worthy of mention is the fact that a cautious attitude is displayed by all the big bankers or bank syndicates. Their bids were generally at par, the lowest figure that could be accepted. This indicates that these bankers, being in close touch with investment conditions at all times and the world's money markets, have found new capital supplies exceedingly scarce. The smaller bids were generally at a higher range, reflecting a

more confident feeling as to the future among the smaller holders of capital. They realized the attractiveness of the offering, which being tax exempt really gives the new bond an added feature, which few other similar issues possess. . . . The city administration, recognizing the true situation, offered its obligations on a bargain basis and not the money, and could have got more. When people will buy bargains there is no need to despair. It is only when bargains are turned down that the situation takes on a serious aspect.

City Structures as Advertising Mediums.

Two of three small cities—possibly more—have during the past few years practiced a doubtful economy in obtaining trash or waste paper receptacles for the city streets by permitting advertisements to be painted upon them, in return for which the cans were furnished free to the city. A municipal news item in our issue of May 22nd told of a village in the middle west which has gone still further and has sold out its sidewalks for advertising purposes, merchants being invited to place their advertisements on the city walks in return for paying for their construction. This idea might readily be carried still further, and we may yet see a city hall built without any cost to the city in return for the privilege of covering its walls with advertisements and erecting enormous advertising signs upon its roof. Not only can considerable money be saved to the taxpayers in this way, but any city which has the courage to adopt the plan will gain considerable advertisement by the novelty.

Seriously speaking, we think that any city or village might better delay improvements until they can afford to pay for them rather than so prostitute public structures to mercenary purposes. The citizens should no more tolerate such use of public buildings and structures than they would permit the painting of signs on the fences, sidewalks or roofs of their private residences.

Break in Los Angeles Aqueduct.

The construction of the Los Angeles aqueduct, one of the large undertakings of the country, of which we have published several descriptions, which is almost completed, has been carried through very successfully at moderate cost and with comparatively little criticism. It is unfortunate that at the very conclusion of the work one portion of it should have proved to have been faulty, and require reconstruction which will delay the opening of the aqueduct several months. Arrangements had been practically completed for a celebration of the opening of the aqueduct on June 19th and 20th, but the accident has necessitated postponement of this celebration until the early part of October.

The break occurred in the only pressure tunnel on the line of the aqueduct. This was known as the Sand canyon rock syphon, and consisted of a syphon carried across a canyon falling 600 feet below the hydraulic gradient, by tunneling through the rock on each side of the canyon, the tunnel making an angle of 45 degrees with the horizontal, these tunnels being connected at the bottom by a steel pipe which bridged the stream. Mr. Mulholland, the chief engineer of the aqueduct, states that this rock tunnel was introduced largely as an experiment and one concerning the success of which there was some doubt. The rock at this point, although more solid than at any other point along the aqueduct, was quite seamy and lacking in strength, and shortly after the filling of the aqueduct the water began forcing its way through the seams of the rock, and on the afternoon of Sunday, May 18th, the whole mountain on the south side of the canyon blew out and was washed to the bottom of the slope by the escaping water. No idea is entertained of repairing the tunnel, but the syphon will be reconstructed of steel pipe, which was ordered by telegraph immediately after the break.

NEWS of the MUNICIPALITIES

Current Subjects of General Interest Under Consideration

by City Governments and Department Heads

ROADS AND PAVEMENTS

State Saves Money on Cement Contract.

Sacramento, Calif.—By entering into a contract with an independent cement concern the state engineering advisory board took action that will save the state \$1,020,000 on a \$3,450,000 order of 3,000,000 barrels, and at the same time assures the financing of a company with the avowed purpose of cutting prices on the so-called cement combine. The state contract for between a million and a million and a half barrels of cement at \$1.15 from the Old Mission Portland Cement Company, of San Juan, in twenty months, commencing March 1, 1914, and the privilege of renewing the contract for an additional twenty months at the same rate. Heretofore the state has had to pay \$1.49 for cement. The new company will be operating by January 1. J. C. Kent, of San Francisco, is president. The contract is the second largest in the world, being exceeded in amount only by that of the government for 5,000,000 barrels for the canal.

Good Roads Contest Is Launched.

Fort Dodge, Ia.—Any organization preparing the best six miles of road to Fort Dodge, on or before July 15 will be awarded a prize by the Fort Dodge members of the Webster County Good Roads Association. Five hundred dollars is to be divided into three sums, \$275, \$150 and \$75. This is the latest move to arouse interest in good roads into Fort Dodge undertaken by this association. The only requirement is that at least four organizations compete. Already the farmers along the most traveled approaches to town are getting busy. Along the Hawkeye highway, the Otho short line and west and south of town work has begun. The state highway commission with the Webster county engineers will act as judges. After the decision there will be a big booster banquet. Engineer G. P. Smith stands ready to aid with practical help and suggestions for the bettering of the approaches to town.

Madison Will Boulevard East Washington Avenue.

Madison, Wis.—The Madison of the future will be a real "City Beautiful" if the plans Mayor Heim intends shall be put in practice on East Washington avenue are adopted all over the city. The work of remodeling East Washington avenue is to start late this summer and by next spring it should be the most delightful street in the city, according to the chief executive. First of all the park strips in the center of the boulevard are to be cultivated, put under the plow and planted for a time. Then a liberal supply of grass seed and a miniature grove is to be planted in each strip, and in one or two places a water fountain might be added to help appearances. Next attention is to be directed to the lawn outside the street curb. A line of trees as long as the street is to be planted on each side.

Sherman Way Road to Join With Brand Boulevard.

San Fernando, Calif.—One mile of the extension of Sherman way, the \$500,000 boulevard in the San Fernando valley from Van Nuys to a connection with Brand boulevard in San Fernando, has just been completed by the Brashear-Burns company. Curbs have been set for three and a half miles and grading, surfacing and paving of this stretch will be rushed, according to Fred W. Forrester, general manager of the Angeles Mesa Land Company. The boulevard extension, which will practically bisect the holdings of the Angeles Land company, comprising something over 2,000 acres, and also the holdings of the San Fernando Mission Land company will be about five miles long and will cost,

when completed, over \$200,000. The boulevard from curb to curb is 130 feet wide. In the center is the right of way of the Pacific Electric Los Angeles-San Fernando line. From the edge of the right of way to each curb is a 40-foot paved roadway. Macadam, oiled rock and surfacing are being laid on the roadway to make it durable for many years, without a suggestion of a hole or bump. One side of the boulevard will be for the exclusive use of automobiles and the other for teams and auto trucks. The road up the side of the hill, which makes one of the bulwarks of the lower San Fernando reservoir, is practically completed. The cost of this work, which is in the neighborhood of \$30,000, is being borne by the Angeles Mesa Land Company and the San Fernando Mission Land Company. The road leads by an easy grade to the very topmost edge of the reservoir, giving one a view of several miles of the San Fernando valley.

Pavement Work for 1913 Commences.

Tacoma, Wash.—Paving improvements in Tacoma worth \$190,000 are now under way or will be contracted for within the next few days, according to Commissioner of Public Works Owen Woods. The work covers many sections of the city, and it is entirely of asphalt, with one exception. The exception is for the work on North Oakes street, where a new paving mixture termed "asphalt concrete" will be used by Joseph Warner, Sr., contractor, who has been awarded the job. The work on the 1913 paving has just begun. Four contracts have been let this year and two more are pending, bids for which will be submitted soon. Other paving improvements not included in the \$190,000 total are being prepared in the city engineer's office, for which tenders will be asked as soon as estimates have been finished. Besides the paving work the department has approximately \$100,000 worth of grading and sidewalk jobs costing from \$4,000 up to \$45,000, under way. The largest is the grading job in the Indian addition and Roosevelt Heights, which will put about 50 blocks of city streets on grade. One paving job, begun late last summer is not yet finished. This is the work on Point Defiance boulevard, which will cost \$61,485 when finished. The contract was let to the Keasal Construction Company. Under terms of the contract the work must be done by June 2, if an extension of time is not granted by the council on the recommendation of Commissioner Woods. This pavement will give a hard surface street nearly all the way to Point Defiance Park. The Metropolitan park board let a contract a month ago to pave from the end of the city's work to the park entrance, which when finished this autumn will make a boulevard all the distance to Tacoma's finest park. Competition has been keen among the contractors for the paving work both this year and last year. As high as \$60 a lot has been saved by property owners when the bids were opened and the contract let to the low man. The price cutting is due to the entry into the field of several independent paving companies.

Macadam Road Around Reservoir.

Port Jervis, N. Y.—Bituminous macadam will probably be used for a roadway around the Ashokan dam in Ulster county, instead of vitrified brick, as originally contemplated, the vitrified brick pavement extending only across the dikes and dam. This was practically decided after an investigation carried on by the Board of Estimate and Apportionment of the city of New York. Judge Howard several years ago granted an order which directed that the city must provide suitable substituted highways to take the place of the highways which the city of New York destroys by the construction of the reservoir. Judge Howard directed that these highways should be equal in construction to town

highways or highways constructed and maintained by the state of New York. Some time ago the New York board of water supply decided that a vitrified brick pavement would last longer and in the end be more economical than a macadam highway, and plans calling for the construction of such a highway were accordingly prepared. Bids were solicited but before the contract was awarded certain questions arose which made it seem advisable to hold up the matter. During the early spring, the board of estimate and apportionment appointed a committee to consider the matter, a majority of the board expressing themselves as opposed to the plan for a vitrified brick boulevard as being an unnecessary expense. A committee visited Ulster county and the entire committee held hearings in New York City. The committee by its report decides that the brick boulevard is unnecessary and too expensive and that economic conditions do not demand its construction, but rather do demand a highway of another character. Upon this report the board of water supply has decided to construct a bituminous macadam boulevard around the reservoir, with vitrified brick roadway extending along the dikes and dam, and plans calling for such construction are now under way.

Old Town-Milford Bridge Accepted.

Old Town, Me.—The new westerly span of the Old Town-Milford bridge has been accepted by the state highway commissioner and is now open to the public. Parker L. Hardison, the state highway commissioner, and his assistant, Lucious D. Barrows, went, last week, to Old Town, where they inspected the new construction. The bridge was constructed at a cost of approximately \$20,000, and replaced the old wooden truss bridge, that has stretched across the Penobscot river, between Old Town and Milford, for years, and had almost passed the stage of usefulness. This bridge was one of the few covered wooden bridges left in Maine. The easterly span remains to be constructed, and work on that will begin soon after the money becomes available in July. The new bridge is made of steel, and has a roadway 30 feet in width, with two sidewalks. The bridge itself was designed to accommodate the passage of electric cars, should a road ever be built across the river. The roadway is paved with block paving, between which is a filling of pitch and tar.

Convict Work on Highways.

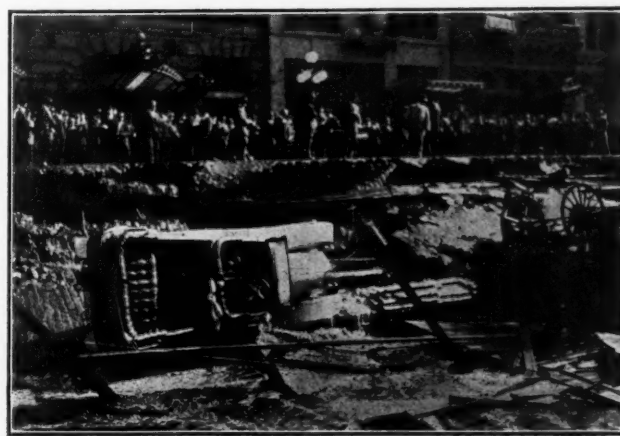
Colorado Springs, Col.—Colorado's employment of convict labor on its roads has proved highly successful. According to the report of the warden of the State Penitentiary 157 miles of roadway were constructed during the last biennial period, at an estimated saving to the counties of \$223,479.56. The convicts have been employed largely upon the mountain and most difficult roads and the model highways they have constructed have stimulated road improvement and development in every section of the state and have given Colorado a nation-wide reputation for its increasingly good roads. Two of the mountain roads which have attracted widespread attention are the state highway between Colorado Springs and Canon City, and the Lincoln highway through Ute Pass west from Colorado Springs to Colorado City and Manitou. Warden T. J. Tynan states in his report that the average cost to the different counties of this road work has been 32 cents per day per man, making a total cost of \$36,725.44. Adding \$10,000, the cost for feed for teams, the total labor cost to the counties was \$46,805.44, or the average cost of \$298.12 per mile. He points out the difficulty of estimating the expense of the roads because of the great amount of blasting and other heavy work necessary on the mountain roads. Figuring on 132 men working 610 days at \$2 per day; 20 masons and cement workers at \$5, and 5 blacksmiths at \$4 per day, and 21 teams at \$2.50 per day, the Warden estimates the value of the labor to the counties as \$266,285, to which he adds \$4,000 for depreciation and interest on state equipment. "This labor did not compete with the free labor of the state," he says, "for the reason that the counties could not otherwise have afforded to do this work." Colorado has been one of the pioneer states in the adoption of the convict labor plan on its highways, and its methods have been copied in other commonwealths.

Alachua Is After Brick Highways.

Gainesville, Fla.—The Board of County Commissioners of Alachua County, after years' experience in constructing sand-clay roads, have reached a conclusion that vitrified brick will be the cheapest material for lasting highways, and to promote sentiment in that direction have issued the following statement: "To the People of Alachua County: We, the undersigned county commissioners of Alachua County, after duly considering the past experience of our predecessors, as well as our own, and realizing the poor system of roads in Alachua County, believe that sand-clay roads are a failure and unduly expensive in proportion to the unsatisfactory service they give our farmers and all who use them. We further believe that brick roads are the cheapest in the long run, even though more costly when being built. We believe this for the following reasons: Cost of maintenance is very small. They are the most serviceable and lasting. This decision we have arrived at after taking everything into consideration, and we firmly believe that if Alachua County continues to build sand-clay roads, particularly in those sections over which there is heavy traffic, she will be throwing away money, whereas, if brick roads are built, we conscientiously believe Alachua County, aside from having good roads, will save money. We want all who read this, who believe as we do, to talk brick roads, and endeavor to convince those who do not realize the truth of our conclusions, that we are right." The statement was signed by C. C. Pedrick, chairman, C. J. Grace, R. R. Doke and Samuel Shaw.

Street and Sidewalk Cave-In.

San Francisco, Cal.—The accompanying picture illustrates the damage caused by the collapse of a retaining wall at the curb. A lot on the north side of O'Farrell street was being excavated prior to building a theatre and when the wall gave way the city's high pressure and Spring Valley mains being left without support, snapped close to the Tait side of the resulting cave-in. Water from both mains formed a mammoth fountain that spurted in the air as high as the Orpheum directly across the street, and then poured back into the excavated lot in such volume as to soon be up to the withers of the work horses in the property at the time. As the sidewalk and part of the street crumpled in toward the lot, automobiles belonging to George Anderson of motion picture fame and the owner of the property, and C. W. Waller, an insurance man, both crashed over the brink into the wreckage beneath, their chauffeurs, Joseph Robinson for Anderson and W. C. Little for Waller, both of whom were in their respective cars, escaping without the slightest injury in some miraculous manner. A delivery wagon and team of horses owned by the Bier, Saalburg Cigar Company and driven by Hugh Hart, shared the fate of the autos, while Hart shared the luck of the chauffeurs. He escaped unhurt, although Anderson's car just missed him as he scrambled out of his wagon which had turned turtle. Hart later rescued both his horses with the assistance of the firemen, who were called to the scene.



Courtesy San Francisco "Chronicle."
RETAINING WALL AND WATER MAIN GIVE AWAY.

Work on County Roads to Cost \$18,000.

Hampton, Va.—Work on the county road between Hampton and Phoebus is now progressing rapidly and in a few weeks the roadbed will have been completed and paving will be started. The work will cost in the neighborhood of \$18,000 and will be done by the Lawson paving firm of Norfolk. The Newport News and Old Point Railway & Electric Company will pay one-half the contract price.

May Lose Highway Funds.

Harrisburg, Pa.—An opinion has been given by the attorney general's department to the state highway department, to the effect that unexpended portion of the appropriation to be given to townships for improvement of roads as bonus for abolition of work tax will lapse on June 1, 1913. It is held that it should be paid to the townships entitled to receive it before that date. A number of townships have not complied with the state law on the subject, and may lose their shares.

To Build Highway.

McKeesport, Pa.—L. L. Robbins, of McKeesport, state highway engineer in charge of the Westmoreland district, is completing the plans for starting work on the improvement of a north and south road in Westmoreland county, which is to extend the entire length of the county, from Apollo to Scottdale. Under the arrangement between the state department and the commissioners the county is to pay one-fourth of the estimated cost of the improvement. The townships are to pay another fourth, and the state the other half. Mr. Robbins proposes to put six crews of workmen on the north and south road. Three crews will be at work between Greensburg and Scottdale and three will be engaged between Greensburg and Apollo. Mr. Robbins is confident that if the necessary men can be secured, the bulk of the improvement will be finished before winter. The townships have already given notice that their share of the cash is ready and Mr. Bigelow has announced that the state money is on command.

SEWERAGE AND SANITATION

Warns Against Tonsillitis.

Canton, Mass.—The State Board of Health has sent the following letter to the local board of health in each of the towns surrounding Canton and Norton where the tonsillitis epidemic exists:

Gentlemen—In view of the fact that tonsillitis of a severe type is prevalent in your neighborhood, you are urged to recommend to citizens and physicians under your jurisdiction:

1. That for the next month all milk be boiled before using.
2. That all milk receptacles be thoroughly sterilized before use, by boiling.
3. That any milk suspected to be the cause of epidemic disease be discontinued immediately until investigation proves it to be safe.
4. That persons sick with tonsillitis be subject to the same rules of quarantine as diphtheria; especially should they be kept from any relation to the handling of milk.
5. That physicians report immediately to your board cases of tonsillitis occurring in their practice.
6. That your board report immediately to the State Board of Health any unusual number of cases of tonsillitis in your community. Yours very truly,

Mark W. Richardson, Secretary.

Sewer Renovating Machine Is Tested.

Hamilton, O.—The Milwaukee Sewer Renovating Co. recently gave a practical test of one of its machines on the sanitary sewer at Sixth and High streets, one of the sewers badly clogged by the late flood. The principle upon which the machine operates is to extend, first a long rod through the center of the sewer giving an air vent and opening and then to introduce a machine armed with rapidly revolving knives which, under heavy fire pressure, chop roots and all obstructions to pieces. Subsequent flushing of the sewer follows. The test proved very satisfactory.

White Plains Now Uses Bronx Valley Sewer.

White Plains, N. Y.—The White Plains sewer system is now connected with the Bronx Valley sewer. The disposal plant at White Plains will now be closed down.

Improvements Are Under Way

Claysville, Pa.—The contracting firm of W. S. Rhodes & Sons, of Versailles, started the work of excavating for Claysville's new sewer system. Immediately after the sewer work is finished the paving of Main and Greene streets will be undertaken by the same firm. Last year the plans for the work were held up by the injunction brought against the paving of Main street. The way has now been cleared and the whole town is looking to the day not far distant when it will be possible to travel about Claysville without wading in mud.

WATER SUPPLY

Pumps 10,000,000 Gallons of Water an Hour.

Atlanta, Ga.—Ten million gallons of water an hour will be pumped into Atlanta to drink and bathe in and sprinkle the lawns by the new city pump, at the river station, which has just been passed up by the city government. The pump will be driven by electricity, and Mayor Woodward has signed a contract with the Georgia Railway & Power Company to furnish the current. A steam pump of this capacity of the type in use by the city would have cost more than \$60,000, but the contract for the centrifugal pump, to be operated by electricity, provides for an expenditure of \$7,000. The rate at which the Georgia Railway & Electric Company is now selling power also makes it more economic from that standpoint to use electricity instead of steam.

Reservoir Roof Must be Re-Made.

Fort Dodge, Ia.—A force of twenty-five men are busy tearing off the roof of the new city reservoir. The roof contains 21,600 square feet of concrete four inches thick.

In a recent conference with the City Council W. J. Zitterell, of the contracting firm of Zitterell & Sullivan, contended that the concrete in the roof of the reservoir will harden if given time. Engineers for Burns & McDonald, of Kansas City, construction engineers in charge of the work, declared that the freezing and thawing process the roof concrete underwent last winter has permanently injured it. The contractors claim the tearing out of the present roof and the putting in of a new one will cost them about \$3,000.

Inspect Filtration Plant.

Toledo, O.—Not a single detail in the operation and construction of the Toledo filtration plant was overlooked by a committee of experts and city officials from Cleveland, who inspected the plant in quest of information to be used in the establishment of a plant in Cleveland. Service Director Cowell conducted the Cleveland party through the filtration plant. Question after question was directed to him and men employed in the plant by A. W. Smith, R. W. Pratt, Professor H. Gruener and Dr. Roger Perkins, members of the commission and Service Director Springborn and Water Superintendent, who were in the visiting party. While the Cleveland plant may be constructed along lines similar to the Toledo plant, it will have to be much larger. The capacity in Toledo was found to be 1-10 as great as will be required in Cleveland. It is believed, however, that a plant in Cleveland can be built for \$1,000,000 or \$1,500,000, instead of \$2,000,000 or \$3,000,000, as was presumed. The Cleveland delegation left for Sandusky. They will inspect three small plants in northern Ohio before returning to Cleveland.

Complete Water System.

Ellensburg, Wash.—Water from the city's municipal wells is to be turned into the pipes of the distributing system for an official test, according to Samuel Kreidel, chairman of the special water committee of the city council. If the test is satisfactory, the system will be accepted from the contractors, and water can be furnished to city residents within a week.

Satisfactory Tryout of Distributing Plant.

Johnson City, Tenn.—J. C. Cook, who is the engineer for the city in the construction of the Johnson City water system, is in the city from Atlanta making a "tryout" of the distributing plant, which was bought from the Watauga Water Company for \$150,000. The Blue Springs, from which the city is to get water through the new system, are located in Unicoi County, the source of which is 600 feet above the city, and pressure is somewhat difficult to regulate. The water is to flow from the springs direct to the homes of the consumers. Engineer Cook is making his testings with a pressure of 130 pounds, but where the pipe line has been tested the pressure will be allowed to be about 90 pounds. Under the pressure of 130 pounds the pipe in the main line of distributing system have burst in three places. The new pipe line, which is 13 miles in length, was completed four months ago by Stone & Company, but the leakage was so great that the city would not receive the plant. During this time the contractors have been hunting and stopping breaks. The leakage now is only six gallons per 1,000, and the city is now ready to take over the plant. The water from the Blue Springs is freestone, and when everything has been adjusted Johnson City will have one of the finest water systems in East Tennessee.

Water Regains Former Purity.

Auburn, N. Y.—Recent bacteriological tests of the city water of Auburn show a return to practically the same low bacterial count as a year ago. The bacteria are becoming less numerous each day. The Water Board has discontinued the applications of hypochlorite as the water passes through the pumphouse. Superintendent J. Walter Ackerman of the Water Department has ceased urging the boiling of water, although he does not guarantee the freedom of the supply from harmful germs. With the effects of the spring freshets removed the board looks for water of the usual purity during the coming ten months. Charts for the last five years show a low bacterial count between June 1 and March 1 of the following year. Frank A. Mantel is making daily examinations instead of having samples sent two or three times a week to the city bacteriologist in Syracuse. Students at Cornell are taking unusual interest in studies of city water and numerous samples have been taken from the south end of the lake for chemical and bacteriological experiments. The results will be recorded in note books of the chemistry department and will be available to scientists.

Rejects Improvement of Water System.

Puyallup, Wash.—By a vote of 248 to 134 the citizens of Puyallup followed the example set by Tacoma, defeating the proposed bond issue of \$100,000 to rebuild the Salmon Spring water system. Despite the letters sent to voters by the Council, the defeat of the bonds was expected. The vote is regarded as showing that the majority of the voters favor installing a pumping system at Maplewood Springs.

Leaks in System.

Niagara Falls, N. Y.—R. A. Murphy, an engineer with the Pitometer company, who was engaged to trace the source of the leaks in the municipal waterworks system, has reported to the commissioners that thousands of gallons were wasted at police headquarters and the Garden avenue school because of out-of-date plumbing. The schoolhouse was inspected when there were no children in the place, and it was found that 60,000 gallons were used that day. The plumbing inspector will be put on the job without delay and will be asked to report on the plumbing in city buildings. The commissioners will call on the board of education to take steps to prevent the waste.

Cut Down Water Pressure in Mains.

Puyallup, Wash.—To avoid damage suits with the county and town of Sumner, through leaks in the Salmon springs water mains, the pressure of the water, which has formerly been held between 72 and 78 pounds to the square inch, will be cut down, according to orders issued by Mayor J. P. Leavitt. A pressure valve will be installed soon to regulate the pressure at short notice.

To Readjust Water Rates.

Philadelphia, Pa.—In order to adjust the water charges where meters have been installed, and the rates charged from fixture to meter prices, the Water Bureau will send to the receiver of taxes the corrected water tax duplicate so that all bills where payment by fixture rate is continued can be rendered before the close of the present month. Because of the insufficiency of an appropriation from councils it was necessary for the city to cease defraying the cost of installation of meters as originally planned. Orders for 14,000 meters had been filed and 5,000 of these installed. There were about 4,000 cancellations, after due notice to each applicant, after the city stopped paying the cost of attaching the meters. About 5,000 others have been reordered, and the owners of these properties are paying the plumber's charges. Until the adjustment is made there will be some confusion. In November the receiver of taxes was notified of changes from fixture to meter rates, and a total of \$150,000 in fixture charge rentals was transferred to meter rates. About 4,000 meters, or \$40,000 in rentals will, by reason of cancellation orders, be transferred back to fixture rates. The collections to date fall behind for this time in May about \$100,000. The total annual water tax collected is \$5,000,000. A penalty of 5 per cent. is added after May 31 for unpaid rents. But where such delinquency occurs through no fault of the users, the penalties do not apply. There will be no losses in revenue by the installation of water meters, Chief Davis feels sure. He is reinspecting the entire city, and finds that proper charges in many instances were not made for increased fixtures. With less than one-fourth of the inspection completed, he has increased the income by \$60,000 with the prospects of adding a total of \$250,000 in water rentals that have not heretofore been collected.

Expect to Complete Filtration Plant August 1.

Dallas, Tex.—Although unexpected delays in connection with the construction of the Dallas filtration plant make an estimate of the time of its completion difficult, it is thought by some of the engineers that the work may be finished by Aug. 1. At this time nine of the twelve concrete units of the filter beds have been laid, the filtration reservoir, where the filtered water will be stored, has been cleaned and the wall between the east and west reservoirs is being rebuilt. This wall caved in many years ago, and was never rebuilt, principally because there was no necessity that it should be. With the undertaking of the filtration plant project it was seen that the two reservoirs made by rebuilding this wall could be used, and accordingly the water was pumped out of the east reservoir, which is now dry, and the three feet of mud which had covered its bottom cleaned away. This job, done under the direction of Chief Engineer of the Water Department J. M. Bassett, is very thorough, and the reservoir is now perfectly clean. The broken wall between this and the west reservoir, however, has been a most annoying proposition to the contractors and engineers. The gumbo of its foundation has a baffling manner of sliding out unexpectedly, caving in, "sluffing" away and acting altogether in a most unaccountable manner. Just now concrete braces and retaining walls are being built in to keep this gumbo in place. The cleaning of the east basin and rebuilding of the dividing wall have been two matters which have delayed the work and increased the cost considerably more than was expected. In a trip of inspection Mayor Holland, Commissioners Nelms, Blaylock, Scott, City Secretary Winslett, Engineer Bassett and others were escorted about the work by John M. Didinger, engineer with the American Water Softener Company of Philadelphia, the contractors, and J. A. Bastion, of Kansas City, civil engineer. The concrete work at the twelve filtration beds was found well progressed and particularly interesting. All this work is of solid concrete, many parts of the construction being heavily reinforced. Each of the twelve filtration beds will have a capacity of approximately 1,250,000 gallons per day, making a total of 15,000,000 gallons per day. This water will leave the filters from 97 to 100 per cent. pure, and will run on an average of 99 per cent. pure. The cost of the work, Mr. Nelms estimates, will be between \$235,000 and \$240,000. The original estimate, he said, was about \$201,000, but unforeseen circumstances have increased the expense of construction.

Testing Strength of Johnson City Pipes.

Johnson City, Tenn.—Engineer J. B. Cook, of the McCrary company, of Atlanta, is testing the strength of the pipes of the distributing system of the Johnson City water plant. He has had the water from the Big Blue springs turned into the city system. These springs are located in Uracoi, thirteen miles south of the city. The daily flow is 7,000,000 gallons. The system will cost \$375,000.

Benicia is Facing Water Supply Shortage.

Benicia, Cal.—Benicia, like many other towns of the state, is facing a shortage in her water supply, due to the unusually dry winter. The water company is planning to pump fresh water from the straits during certain periods of the day, for use at the tanneries and other factories where possible. A meeting of the city trustees and the company endeavored to secure the sanction of the trustees to allow pumping from the straits into the city mains, but on account of sewers emptying in the vicinity of the company's pipe line the trustees refused to grant such a request. Water at the supply lake is getting low, and the company is using every possible endeavor, within the bounds of health, to conserve the supply until next fall. Before the new dam was constructed, Benicia was supplied with water from the Sacramento River.

Engineer Reports Progress of Dam.

Waterbury, Conn.—The annual report of City Engineer Robert A. Cairns, which has just been issued, contains many interesting figures and facts regarding the progress made during 1912 in the work of the engineering department of the city and gives in detail information regarding the work carried out on the new dam at Morris up to Dec. 31, 1912. The work on the dam has been going on uninterruptedly from 1909 and on Dec. 31 last 462,898 cubic yards of embankment had been completed, with 58,363 cubic yards remaining to be finished. Of the mason work 36,152 cubic yards has been finished and there still remained 6,640 cubic yards to be completed. The figures are taken considering the entire dam. Considering only contract No. 12, there had been placed at that time 441,637 cubic yards, with 58,363 to be completed. On the masonry under the same contract 30,207 cubic yards had been placed, with 6,640 to be finished. According to the report the quantity of work now remaining to be done to complete the dam is so small as compared with the amount done during the season just closed that there seems to be no reason to doubt that the dam will be ready next fall. The city engineer urges in his report that the question of starting work on the construction of another storage reservoir be considered for 1914 immediately after the completion of the present one.

Improving Drinking Fountains.

Savannah, Ga.—Instead of the public drinking fountains situated on the main street corners, it is most probable that a system will be inaugurated which has been worked successfully in many northern cities. That is to attach the fountains to the fire plugs. Instead of a solid cap covering the opening, an attachment is placed, which is connected with and upholds the fountain. This plan will not interfere with the operation of the plug in times of need, as the appliance can be removed as quickly as the regulation cap.

Agrees to Sale of Water Plant.

Chester, N. J.—The Moorestown Water Company has decided to accept the offer of the Chester Township Committee to sell its plant to the town for \$77,322.80, the valuation placed on it by the engineer, Alexander Potter, of New York City, who made a report to a joint meeting of the township and citizens' committees. At a special election to be held some time in June the citizens will have the opportunity of granting their representatives the power to make the purchase, and to which there should be very little opposition, for if the plant is not bought now other interests might secure it and have the townspeople at their mercy. The new bridge conveying South Church street over Hooten's Creek has at last been completed and travel over that highway resumed.

STREET LIGHTING AND POWER

Decorative Lights for Thief River Falls.

Thief River Falls, Minn.—Eight ornamental iron electric light posts from the Minneapolis Steel & Machinery Company will be installed at once on Third street between Horace and LaBree avenues. The posts are 12 feet high and are cast in a single and artistic design. The top of the post is surmounted with five white globes, four of which will be supplied with 60-watt lamps and one with a 100-watt bulb. It will be about ten days before the posts will be wired and ready for the current to be turned on. All but three lots on LaBree avenue between Second and Third streets have subscribed for posts, and in all probability that will be the next street on which the lamps will be installed.

St. Louis Adopts New Design for Light Standards.

St. Louis, Mo.—In April of this year a new design was adopted for gas lamp standards to be used on the principal streets in St. Louis, this design having been selected from thirty-five which were submitted in response to an invitation of the Civic League. The municipal art committee of the league conducted the contest under an arrangement with the Board of Public Improvements. The league offered a prize of \$50 for the best design, with the further understanding that the committee would select two other designs and these three would be submitted to the Board of Public Improvements, which would adopt one of them; and that the designer of the one adopted would receive the sum of \$25 for making working detail drawings of his design. The jury which passed upon the designs consisted of three citizens, one of whom was an architect and another was the curator of the city art museum.

Storm Destroys Lighting Plant.

Bemidji, Minn.—The electric light plant and dam at Warfield, on the Mississippi river, was completely demolished in the evening of May 23 during a severe electrical and wind storm. Hundreds of poles and wires were dumped into the river. The city received its light supply from the Warfield plant and as a result the city was in darkness. Much other damage was done to farm buildings.

Municipal Plant Paid.

Glasco, Kan.—The success of the municipal utilities in a small town has been demonstrated in the past year in Glasco, the water and electric light plants having been conducted by the city just a year. At the beginning there were forty-four light consumers and twenty water consumers. The light users have increased 100 per cent. and there are now eighty-nine, while water consumers have increased almost 150 per cent., there being fifty-seven consumers now. The streets are lighted by the business men, each paying 50 cents, and the town is as well lighted as any of the smaller towns of the state. The plant has been profitable to the city, and greater improvements are promised for the coming year.

New Light Pole Approved.

Providence, R. I.—The new design for the special ornamental electric light poles which will be installed in the down-town district has been approved by the authorities, and the new poles will soon begin to arrive from the manufacturers and will be set up as fast as received. More than 800 of the lights will be put in by the city in the first fire district, with all wires underground. The larger number of lights will be placed in Washington, Westminster, Weybosset, North Main and South Main streets. A total of 42 lights, including two clusters of three lights each, will be used in the lighting of Exchange place and the new mall. It is planned to install these lights first and, as soon as they are all in place to set aside an evening when they shall be lighted for the first time. The mall will be completed by that time with the exception of the waiting and comfort station on the westerly end, and it is probable that some suitable dedication ceremonies will be arranged. Twenty-

one of the new lights will be placed in South Water street, in order to light better the highway over which there is much travel to and from the boat lines. The new lights will be set from 80 to 100 feet apart, on opposite sides of the street, the lights on each side to be on separate circuits to guard against darkness if one circuit should be disabled for any reason. The lights are of approximately 1,400 candle-power, and when they are in use it will be possible to read an ordinary newspaper at any point along the streets where they are installed. The lights and poles are both of the latest type, and are expected to turn the whole downtown section district into a "white light" section with their brilliancy. In addition to the lights installed by the city several of the stores and theatres are planning to have lights on the city circuits placed in front of their establishments, these lights to be maintained by them. The city authorities are willing that this should be done, and will make arrangements with any concerns which wish to avail themselves of the privilege.

FIRE AND POLICE

Must Salute the Mayor.

Appleton, Wis.—One of the new rules for the police department just adopted is that all members of the force must salute the mayor upon meeting him.

Legal for City to Buy Alarm System.

Des Moines, Ia.—City Solicitor Brennan in an opinion has declared the proposed fire and police alarm system for Des Moines could be purchased legally out of the 1-mill special tax authorized by the legislature. The question was raised by Councilman Van Liew just to be sure the city was making no mistake. There is now no barrier in the way of the immediate purchase of the new system.

Equip Fire Alarm Boxes With Lights.

Baltimore, Md.—Baltimore has put into practice a clever little electrical scheme that undoubtedly will be of value. A number of the outlying city fire alarm boxes have been equipped with 2-watt Mazda globes, which readily mark the location of the boxes for night emergencies. These marker lamps are wired in groups supplied from the regular metered central station service of the nearest fire house. They are switched on at dusk and off at dawn by attendants on duty at the various posts. Policemen are also required to report any lamp that is burned out or broken. Small renewal stocks are kept at each fire house, and a fireman is sent out to replace the useless lamp as soon as it is reported.

Woman Policeman for Walla Walla.

Walla Walla, Wash.—Walla Walla's first woman policeman has been appointed by Mayor A. J. Gillis. She is Mrs. Rose Witt and the appointment was made on the request of the women's park club. Mrs. Witt will have supervision of the children's playgrounds in the city park.

Women Police for San Francisco.

San Francisco, Cal.—Of 25 additional police officers to be appointed three will be women, according to action taken by the Board of Supervisors. It also was announced that the force of women would be increased as rapidly as conditions warrant.

Chiefs Are in Danger of Removal.

Columbus, O.—Every fire and police chief in the state will be outside the protection of civil service from August 5 this year to January 1, and may be removed by the mayor at any time in that period without charges and without hearing. Failure to insert a sectional number in amending the bill in the house is responsible for the situation and it is irony of fate that the blunder was made while a score of chiefs were at the capital fighting to save themselves. The opening thus caused gives Mayor George J. Karb of Columbus the chance he has sought to dispense with the services of Police Chief Charles Carter. There are other cities

where similar situations will not pass without action by the mayor. The mistake took place in the schedule of the new civil service law, which was intended to take care of affairs between August and January. This schedule specified the sections under which the present municipal civil service commissions were to protect employees. But section 4381 was omitted from this paragraph, and consequently will be repealed August 5. In the period thus specified the mayor will be empowered under section 4250 to remove not only the directors of public safety and public service, but all heads of sub-departments under them. This classification includes police and fire chiefs. This power is absolute and no hearing may be demanded by any officer summarily ousted.

Fire Station Opened.

Dallas, Tex.—The new central fire station building, a three-story structure, facing on Main street, and immediately adjoining the new city hall site, has been formally opened. The cost of the station complete, with the lot, is estimated at about \$75,000. Only motor-driven fire fighting apparatus is housed in this station, there being five auto engines and trucks. On the second floor a large, airy and tastefully furnished dormitory room provides sleeping accommodations for the members of the station. Shower baths, and the most up-to-date sanitary fixtures are provided. Chief Magee has his office on the second floor, and the third floor is given over altogether to the Gamewell fire alarm system, telephone switchboard, etc., this being in charge of Henry Garrett.

Fire Budget Cut to \$750,000.

Los Angeles, Calif.—Three-quarters of a million dollars will be all that the fire department can look for to pay salaries, operating expenses and buy new equipment for the fiscal year 1913-14, and the fire commission will be able to build but three engine houses this year. The finance committee of the council has completed its work so far as the fire department estimate is concerned. The budget will be about 10 per cent. higher than this year's allowance, which was \$684,838. The fire commission asked an appropriation of \$911,455. The new engine houses will be at Vernon and Lima avenues, Western avenue and Exposition boulevard and in East Hollywood. These will cost approximately \$10,000 each. Approximately \$400,000 will be expended for salaries, \$125,000 for operating expenses and the balance for outlays. The department will be able to buy fourteen pieces of motor-propelled fire apparatus.

Police Headquarters Finished.

Portland, Me.—The new police station having been completed, hereafter all executive business will be conducted in the new headquarters building. The illustration shows the Newbury Street end of the station, also garage and police auto.



Courtesy Portland "Evening Express."
NEW POLICE STATION, GARAGE AND AUTO AMBULANCE.

MOTOR VEHICLES

New Police Auto Arrives.

Duluth, Minn.—Duluth's new combination automobile patrol and emergency ambulance arrived. It is a 50-horsepower Peerless and will be stationed in the headquarters station ready for service, replacing the "Kato" which has long outlived its usefulness. The new automobile is powerful, nearly noiseless and ranks with the best outfits of its kind. The big Peerless is so arranged that it can be transformed into an ambulance in a few seconds. It will be fitted with the necessary stretcher and equipment. With it the police will be able to respond to accident calls at a minute's notice and handle the cases properly. When the pulmotor is added to the equipment nothing will be lacking to handle accident cases.

Recommends Motor Drawn Apparatus.

Dallas, Tex.—Mayor W. M. Holland in his annual report touches on the supplanting of horse-drawn equipment to motor-drawn as follows: The three-story central station on Main street has been finished in all its details. In addition to the Gamewell system it is provided with a telephone exchange, which connects with every station in the city. This station is equipped entirely with auto apparatus, and several of the other stations are partially so equipped. The remaining horse-drawn apparatus should be provided with tractors or supplied with apparatus as rapidly as the finances of the city will permit.

Motor Fire Fighting Car Accepted by Bristol.

Bristol, Tenn.—At a special meeting of the aldermanic board the handsome new LaFrance motor fire fighting car was accepted. It will at once be substituted for the horse and wagon apparatus that has long been in use. The horses will be retired to street work.

Committee Inspect Fire Apparatus.

Rome, Ga.—Chairman Barron of the fire committee of the city council, and E. W. Best, of the same committee, with Chief Harrington of the fire department, have gone to Columbus, Ohio, to inspect a combination hose, chemical and pumping apparatus which the city is considering buying.

Great Auto Truck Ready for Action.

Janesville, Wis.—Janesville's new Seagrave motor chemical and hose truck is ready to respond to fire alarms although it has not yet been officially accepted by the city. The fifty-gallon chemical tank was filled, and 1,000 feet of fire hose stowed away in the body, although with closer packing fifty feet more can be accommodated. One of the valuable parts of the equipment is a hose laying out device consisting of two iron rollers one at the end of the box floor, and the other underneath the rear platform. This makes it possible for the machine to run past the fire to the nearest hydrant, attach the hose and reel it out while backing up. This saves the time necessary to turn around such a large machine. Chief Klein this morning sent word to the Seagrave company that the truck had arrived and that the city was ready for a demonstration. This will be a severe one as the city wants to be assured that the truck is equal to all demands that may be made upon it in actual service. It is provided with a draw-bar so that it can pull the fire engine if necessary. This feat will undoubtedly be a part of the test.

Boston Has Ninety-Six Automobiles.

Boston, Mass.—The following is a statement of the automobiles owned by the city of Boston and the uses to which they are applied. The fire department has eleven roadsters and runabouts for department chiefs, while the police department has nine. The hospital department is slowly equipping itself with ambulances, having at present one electric ambulance and four autocar ambulances. The Consumers' Hospital department has one ambulance and a touring car. In the bath department, which has been recently merged into the department of parks and recreation,

there are one delivery wagon, a truck, a touring car and a touring car chassis. The building department has a touring car, and the cemetery department two touring cars. The health department has two runabouts, two roadsters and a touring car, while the public grounds department, also recently merged, is credited with a truck and a touring car. The public buildings department has a touring car, the schoolhouse department three touring cars and a roadster, the school committee a truck and a touring car, the wire department two pleasure vehicles, and the weights and measures department a truck. There are also two cars for the medical examiners and one for the mayor. The park department, also recently merged, has eight autos and two trucks. The public works department has thirty machines credited to it; four autos and a truck in the bridge service, eight runabouts and touring cars in the paving service, three in the sanitary service, eight in the street cleaning and oiling service and the sewer and water division and six in the sewer and water division.

Texas Town Orders Auto Fire Truck.

Belton, Tex.—The City Council has placed an order for one of the latest and improved makes of auto fire truck. This machine has a 75 horsepower motor, with a speed limit of 60 miles per hour, one extension ladder, also five chemical apparatus. The wheel base is 140¾ inches, and the approximate length is 18 feet.

Motor Fire Truck for Janesville.

Janesville, Wis.—Janesville's new motor-propelled combination hose and chemical truck has arrived from the Seagrave factory, Columbus, O. The new vehicle is massive in its size and weight, the largest touring car being a dwarf in size beside it. Its design is attractive as well as correct from an engineering standpoint. The color, battleship gray, is generally approved. The new fire-fighter is equipped with six cylinder engine, 79.3 horsepower, A. L. A. M. rating, and is of the water-cooled type. A honeycomb radiator, fan and centrifugal pump constitute the cooling apparatus. Springs protect the radiator from excessive shock and strain. Three speeds forward and reverse with direct drive on third are provided by a selective type transmission. Final drive is by heavy side chains from countershaft to rear wheels. Motz type dual rubber tires are used on the rear wheels and solid tires of standard pattern on the front wheels. All tires are four inches wide. Lubrication is by positive multiple feed. There are two ignition systems. A large electric searchlight, headlights, and tail light are carried. Included in the apparatus are a 50-gallon chemical tank, 200 ft. of chemical hose, extension and roof ladders, crowbars, oil lanterns, locomotive bell and Klaxon horn. The machine has a maximum speed of thirty-five miles an hour. The city will pay for the truck on acceptance. The company's demonstrator has not yet arrived in the city, but Chief Klein and his men have had no trouble in operating the car. Twelve men were carried over several miles of city's streets, and the car negotiated all grades with ease.

Self-Dumping Alco Trucks for Building State Road.

Harrisburg, Pa.—As an evidence of the increasing popularity of motor trucks with power dumping bodies for contracting work, the Pennsylvania state highway department has purchased from the American Locomotive Company two Alco trucks, to be employed in road building activities in the state. Both vehicles are of five tons rating and are fitted with a type of body for hauling heavy materials such as rock, gravel, crushed stone and sand. The body raises or lowers by the power of the motor, has a maximum angle of 45 degrees, and deposits a full load of material in thirty seconds. A hand windlass is also provided in the event that a slower speed is desired. Another feature of the trucks is the type of tail board which opens automatically with the lifting of the body and is so constructed that the material carried may be spread over the road as the truck travels forward. The entire operation of the hoisting mechanism is controlled from the driver's seat, a lever being conveniently located for the purpose. The dumping mechanism does not bear any weight of the load while the truck is on the road.

GOVERNMENT AND FINANCE

City Department Buys Municipal Bonds.

South Norwalk, Conn.—An unusual transaction occurred recently when the South Norwalk City Electric Works purchased, at a profit, some \$20,000 of city of South Norwalk bonds. This plan of buying city bonds by municipal plants, it is pointed out, besides following a practically new system of municipal business, will, if continued, eventually clear the city of debt, save perhaps for a sum which it will, in reality, owe itself.

Study Municipal Government.

Philadelphia, Pa.—For the first time an American mayor is going to school at a university to take a course in municipal government. Mayor Rudolph Blankenburg, of Philadelphia, has gone west for ideas, to study the new methods of administration that have been adopted in progressive western cities and states. He is accompanied by 100 of the most prominent citizens of Philadelphia—merchants, manufacturers, bankers and college presidents. Dr. Thomas Fell will represent Maryland by appointment of Governor Goldsborough. The "students" will live at the University of Wisconsin, where the "Wisconsin idea" of better government and public service was born, and go to school like college men, but with this difference: The experts on political economy, railroad regulation, taxation and administration are to crowd into three days and nights the essence of a college course that would ordinarily stretch over several years. Prof. Irving Fisher, the noted economist of Yale University, is with the party, which includes Owen Wister, the novelist; Mayor W. A. Magee of Pittsburgh; presidents, professors and trustees of colleges and universities, including from the University of Pennsylvania, Provost Smith; Dean Charles John Frazier of the Town Scientific School; Dean R. C. McCrea of the Wharton School; Prof. W. E. Mikell of the Law School; Dean Arthur H. Quinn of the college department, and Director Arthur J. Rowland of the School of Engineering. Educators from other universities will be Dr. Russell H. Conwell, president of Temple University; Dr. Laura E. Carnell, dean of Temple University; Dean Jackson, Prof. M. S. McDowell, Dean R. L. Watts and President Edwin L. Sparks of the Pennsylvania State College; Will Grant Chambers and Charles B. Robinson of the University of Pittsburgh. But the most significant feature is that a number of business men at the head of big corporations and banks have left their offices and stores for a week to study these questions that concern their city and state, and in the party are politicians like Henry Watson, chairman of the Republican State Committee. Democrats, Republicans and Progressives have sent delegates. Baltimore has a representative in Miss Harean James, secretary of the Women's Civic League.

New Rule for Dayton.

Dayton, O.—At a special election held May 20 a commission was elected to write a city charter calling for a commission-manager form of government. The fifteen men chosen were nominated by a non-partisan Citizens' Committee. Twenty thousand votes were cast. The citizens' ticket was headed by John H. Patterson, who was recently convicted of violation of anti-Sherman trust law and fined \$5,000 and sentenced to one year in jail. Mr. Patterson's election was almost unanimous. The new commission will write a charter calling for the election of five commissioners from the city at large, and these, in turn, will appoint an expert in city management to conduct the business of the city. The election was held under the provisions of the "home rule" amendment to the constitution, adopted last summer. The election put before the voters the question "Shall there be a Charter Commission?" The ballots also carried in Dayton, three tickets of fifteen names each, of candidates for members of the charter commission, the fifteen men receiving the highest number of votes will proceed to frame a form of government, which must be submitted to the people for ratification later. In Columbus, but one list of candidates was submitted. In Youngstown there were two, each representing different ideas. In Springfield a single list of candidates was proposed, the selection of several allied civic organizations.

Governor Approves Metropolitan Planning Bill.

Harrisburg, Pa.—The Ambler Metropolitan Planning District bill, aiming to permit the suburbs of Philadelphia to unite in promoting plans for uniform and co-operative development, has been approved by the governor. Under the act a district within a radius of 25 miles of Philadelphia is created into a metropolitan district, for the purpose of planning highways, roads, parks, water supply, sewerage, sewage disposal, garbage disposal, housing, sanitation, playgrounds, civic centers and other public improvements. An Executive Department is created, under a planning commission, to be appointed by the governor, and to consist of fifteen members, of whom twelve shall be residents of the district, and three shall be residents of Philadelphia. The term of office is to be three years, one-third the members to go out of office each year. The commission is to serve without compensation, and has authority to employ experts and engineers, the expenses to be paid by special assessments, levied by the commission against all the districts, not to exceed one-tenth of one mill in any year. The commission is to cause plans, diagrams and maps of the district to be made, together with comprehensive plans for all sorts of general improvements, and to have these laid before the district. On the request of any of the authorities it shall have plans prepared for any specific improvement within the unit. It has no power to execute its plans, all that remaining with the local authorities.

Department Store Places City Bonds on Sale.

New York, N. Y.—With the same alertness and discretion displayed in their activities at a bargain counter, women patronized the sale of city bonds placed on sale by one of New York's large department stores. The manager of the firm's banking department said the sale demonstrated that women who decline to patronize banks or bond brokers, because of their reluctance to enter the precincts of exclusively financial business, are eager to make investments when it can be done in environments to which they are more accustomed. The women purchasers proved they were by no means timid investors. One woman paid for \$20,000 worth with no more concern than if she were buying the material for a party gown. Subscriptions were in amounts from \$100 up, with the average between \$1,000 and \$2,000. Residents of New York were fairly represented, but most of the bargain hunters came from the suburbs in Long Island and New Jersey. The bonds were sold at 100.125, a figure said to be slightly below the average issue price. The firm's agents got the lot when the bonds were at their lowest mark. Purchasers paid the interest accruing for the three days during which the firm has had possession of the bonds, but this amount will be restored when owners receive their dividends on next September 1. The firm made no profit on the transactions, the sale being held for the sole purpose of accommodating customers, especially small investors, who are inexperienced in investment matters.

STREET CLEANING AND REFUSE DISPOSAL.

Sprinklers Spread Road Oil.

Bridgeport, Conn.—Three road oil sprinklers are laying the dust on the Bridgeport streets. The contract for the city's street oiling made with the Standard Oil Company of New York specifies that the work of laying the oil shall begin on June 1. Director of Public Works Jacob A. Courtade said the work was begun more than two weeks in advance of that date, as the dry weather and the dusty condition of the streets made it necessary to do the work earlier than usual. The oil is being laid with the Standard Oil sprinklers, the same as used last year. These sprinklers spread the oil evenly over the road, and in such a manner as to prevent it forming puddles. The street oiling work throughout the city should be completed in about two weeks.

City Convicts Oil Roads.

Macon, Ga.—The city stockade force has been sprinkling oil on Broadway near the Houston road. The oil is to be used as a test for settling the dust and the work is being done under the supervision of Superintendent of Streets Mosely by direction of the street committee of council. If the test proves successful every street leading into the city will be oiled.

New Health Officer Cleaning Up Raleigh.

Raleigh, N. C.—Former Alderman J. Sherwood Upchurch, who has just been appointed by the new commission government to the position of chief health officer, has not only announced a definite and complete campaign for cleaning the city thoroughly and maintaining that condition, but he is carrying this campaign to accomplishment with a vigor and directness that is accomplishing wonders already. It seems certain that the commission will provide Mr. Upchurch with an adequate crematory very soon. There is every assurance that within a few weeks, Raleigh will be one of the most clean and sanitary cities in the country.

Clean Up Disposes of Large Amount of Rubbish.

Pittsburgh, Pa.—In the "clean-up" day on the South Side, which took place on May 12, under the direction of Director John H. Dailey, of the Department of Public Safety, it is estimated that 17,000 old bed springs were cast into the junk heap. This is the first real cleaning day the South Side has had for years and it was voted a great success. The old springs, with other burnable stuff, were cast into scores of bon fires and consumed. Several city wagons were used to haul the rubbish away.

RAPID TRANSIT

Modern Lighting System for Street Cars.

Toledo, O.—Toledo will be the first city in the country to have a modern system of lighting installed in street cars, according to George Williams, of Doherty & Co., who, with J. A. Munroe of Chicago, began work on plans for a new system to be installed in local cars. The lights will be as bright as reading lamps. Mr. Munroe is illuminating engineer of the National Electric Lamp Association. His suggestions on direct and indirect lighting will be used in equipping the new cars to be ordered for the local system and for the cars to be rebuilt.

Fenders Installed.

Port Arthur, Tex.—The first fenders ever seen on a street car in Port Arthur made their appearance on the city's principal business thoroughfare. Every car operated by the Port Arthur Traction Company will shortly be equipped with them. The fenders adopted by the company are of a new model, which works automatically in picking up objects along the tracks. As soon as the object is picked up, the fender closes, holding it in a secure but not injurious clasp. The motorman has nothing whatever to do with the manipulation of the device, as is the case in many other fenders. When open, the front of the fender rests about five inches above the rails.

MISCELLANEOUS

Water Board Grants Land for Playground.

Portland, Ore.—South Mt. Tabor, Mt. Scot and contiguous districts will have a children's playground the coming summer, as a result of a visit of over 200 school children from the territory adjacent to the proposed recreation center, to the meeting of the City Water Board. The youngsters representing ten schools in the district came to the City Hall in a body, and marching into the Council chambers, made a plea to the board which could not be resisted, and two acres of ground belonging to the Water Department adjoining reservoir No. 2 was promptly turned over to the Park Department to be equipped as a playground. Councilman Joy, J. W. Jobelman and F. J. Glass acted as spokesmen for the juvenile delegation and told of the needs of a playground in the

district represented. They said they had been striving for months to secure the tract adjoining the reservoir, which was centrally located and an ideal place for the recreation center, but so far their pleas had fallen on deaf ears. They said they realized the tract of ground in question was in use by the Water Department for the storing of pipe, but thought that the pipe could be moved elsewhere and the ground transferred into a play center until such time as it was needed for another reservoir. It was determined by the board that since there are three acres in the vacant tract, one would be sufficient for the storage of pipe and that the remaining two acres could be turned over temporarily to the children. Commissioner Wilcox made a motion to this effect, which was promptly seconded and carried. The City Park Board already has prepared plans for the proposed playground, and the apparatus has been purchased. Work will be immediately commenced installing the apparatus in the playground so that it will be ready by the time the playground season opens, June 1.

Portsmouth Acquires First Playgrounds.

Portsmouth, Va.—The city of Portsmouth came into actual possession of its first playground property, when the deed from the Phillips-Mahoney Company, Inc., transferring all rights and title to the property fronting on Wythe street to the city of Portsmouth in consideration of the sum of \$10,000 was recorded.

Bristol People Want "Poleless" City.

Bristol, Tenn.—With the installation of a "white way" there is a growing demand for a poleless city. The matter of having all telephone and telegraph and light poles removed from the business streets and the wires placed in underground conduits is being discussed by the citizens. The objections to so many poles was never made so manifest as by the installation of the standards for the "white way." It is believed that sentiment will crystalize rapidly in favor of doing away with the poles.

Toledo Holds Annual Municipal Parade.

Toledo, O.—The annual municipal parade was held May 24 and the central feature was the awarding of medals and gold buttons for bravery to the members of the police and fire departments. Chief William Mayo led the fire department, which headed the parade, with 15 shining and decorated pieces of apparatus, conspicuous among them being the engine from No. 3 engine house, drawn by a gasoline tractor. It was the first piece of auto apparatus to appear in a municipal parade. Men of the outside wiring department, park and forestry department, sealer of weights, harbor master, cemetery, street, water works, building inspection, house of correction and inside wiring departments followed and the end of the procession brought into view the motor cycle men, traffic squad, mounted men and patrolmen.

Urges City to Build Ice Plants.

New York, N. Y.—Borough President McAneny submitted a proposal to the Board of Estimate for the city to build and operate municipal ice plants for furnishing ice to consumers at a much lower cost than private concerns do. While such plants could not be built before 1914, he suggested that the city go into the business of ice-making on a small scale right away, so that it could be sold during the summer months in small quantities at cost price in the more congested districts. His resolution provides that the presidents of all the boroughs and the Health Commissioner be empowered to experiment in this way this summer with a view of establishing regular ice plants next year. The plan will be considered at next week's meeting of the board. Mr. McAneny said that his engineers had studied the matter carefully and reported that plants could be established at a capital outlay of \$1,000 to \$1,500 a ton of daily capacity, and that the cost of production, including capital investment, but exclusive of delivery charges, would not exceed \$1 a ton. Ice was now delivered, he said, at from 40 to 45 cents a hundred pounds, or \$8 to \$9 a ton, and in the hottest months of the summer the price was still higher. His plan is to transport the manufactured ice to the fifty-five pure milk stations owned by the city, at a cost, he estimates, of not more than \$1.50 a ton, and have it distributed from these points.

LEGAL NEWS

A Summary and Notes of Recent Decisions— Rulings of Interest to Municipalities

Eminent Domain—Property Condemned.

Kansas City v. Woerishoeffer et al.—A city could condemn an overhead easement widening out a little over adjacent property; it not being bound to exercise its full powers of condemnation.—Supreme Court of Missouri 155 S. W. R. 779.

Injury—Unlicensed Vehicle—Trespasser.

Luckey v. Kansas City.—An ordinance providing that no vehicle shall be driven on a street without a license, and that one violating the ordinance shall be guilty of a misdemeanor and subject to fine, disclosing, by its recitals, its purpose to raise revenue for keeping the streets in repair, not being a police regulation, though declaring its violation a misdemeanor, for which fine shall be imposed, one violating it is not a trespasser, with the result of being denied redress for injury from an obstruction in the street.—Kansas City Court of Appeals 155 S. W. R. 873.

Letting of Contracts—Samples—Bidders.

McGovern v. Inhabitants of City of Trenton et al.—P. L. 1912, requiring the letting of contracts for improvements to the lowest responsible bidder after advertisement for bids, requires the awarding of a contract to the lowest bidder, who has submitted a sample which comes up to the standard of the proposal, and the mere fact that a sample submitted by a higher bidder is a better quality for the higher price than the lower bid is no justification for an award to the higher bidder.—Supreme Court of New Jersey 86 A. R. 539.

Gas Company—License Fees—Reasonableness.

Borough of Kittanning v. American Natural Gas Co.—Where, in an action by a municipality against a public service corporation to recover license fees for inspection, the evidence showed that the aggregate amount of license fees greatly exceeded the cost of inspection, it was error to instruct that the municipal authorities were the only tribunal that could determine the amount of the license.—Supreme Court of Pennsylvania, 86 A. R. 717.

Water Supply Commission—Denial of Application.

Borough of Collingswood v. State Water Supply Commission.—The State Water Supply Commission denied the application of a municipality for leave to construct municipal waterworks and sink wells as a source of supply on the ground that as the municipality was already enjoying an adequate supply of good water furnished by a private company at a reasonable rate, and as there was nothing to indicate that the supply was likely to become inadequate or the quality to deteriorate, the plan proposed was not "justified by public necessity or reasonably anticipated public use," as provided in the statute. Held that, as the custodian of the state's water supply, the Commission was warranted in law, on the facts as found, in refusing the application; that its finding of facts was justified by the evidence; and that its judgment was neither unreasonable nor illegal.—Supreme Court of New Jersey, 86 A. R. 660.

Street Sprinkling—Car Tracks.

City of South Bend v. Chicago, S. B. & N. I. Ry. Co.—Under Burns' Ann. St. 1908, providing that a city might require street railroad companies to keep street crossings clean along their right of way, and might carry out corporate objects not particularly specified, and exercise exclusive power over streets, declare what shall constitute a nuisance, and provide for its prevention and abatement, construed with other sections, providing for street sprinkling in cities and the assessment of the costs thereof against abutting real estate or out of the municipal treasury, a city had no power to enact an ordinance requiring a street car company to sprinkle the space between its tracks.—Supreme Court of Indiana, 101 N. E. R., 628.

Railroads Crossing Highways—Viaducts.

City of Superior v. Remer et al.—Where the petition in an action by a city to compel a railroad company to construct a viaduct over its tracks prayed for an order directing the work to be done at the company's expense, and that the proportion of the cost of the improvement to be paid by the several railroad companies be determined by the railroad commissioner, it could not be said that the city acquiesced in a part of the cost of the work being charged to it, pursuant to Laws 1909.—Supreme Court of Wisconsin, 141 N. W. R. 250.

Abandonment of Contract—Recovery of Deposit.

Tunny v. City of Hastings.—It was competent for the parties to abandon the contract made by the bid and the acceptance of it. In this case plaintiff advised the officers of the city that he had made a mistake in his bid. The parties then proceeded to negotiate on a different basis. The city claimed a new contract, and attempted to hold plaintiff to it. At no time did the city evince any disposition to hold the plaintiff to his bid. Held, there was a mutual consent to abandon the obligation of the bid, and plaintiff was accordingly entitled to recover his deposit.—Supreme Court of Minnesota, 141 N. W. R. 168.

Tending Drawbridge—Negligence—Responsibility.

Evans v. City of Sheboygan.—A city, in performing the duty imposed on it by law of tender of a drawbridge over a navigable stream, is, as to a traveler over the bridge, not performing a municipal function, but a governmental function, for negligence in which regard there is no common-law liability on its part to him.—Supreme Court of Wisconsin, 141 N. W. R. 265.

Plank Sidewalk—Defects—Notice.

Madison v. City of Antigo.—In an action for injuries caused by a defective sidewalk, where there was evidence that it was old and so decayed that a plank was liable to break at any time, and that occasionally a new plank was put in to replace one that had become broken, there was sufficient evidence that the city had constructive notice of the defect, since where a walk is in such a condition, which condition is observable by reasonable inspection, the city cannot escape liability when a board does break by denying notice of the defect.—Supreme Court of Wisconsin, 141 N. W. R. 287.

Highways—Contracts—Statutes.

City of Holly Springs v. Marshall County.—Acts 1900, c. 119, relate to the working of public roads by contract; section 4469 provides that one-half of the road taxes within a municipality shall be paid to its treasurer, where the streets are worked at its expense or by municipal authority, and all other taxes collected shall be paid to the county treasurer for a general road fund within such part of the county as is worked by contract; and section 4475 provides that the 11 foregoing sections shall not apply to any county except by order of the supervisors, or to any county already working the roads under any existing contract system, unless the contractors and board mutually elect to come under such sections. Acts 1900, c. 150, provides that the supervisors, in addition to the present method of working public roads, may work the public roads under direction of a commissioner, provided contracts for materials, etc., be made after competitive bids, and may raise funds for working roads by bonds issues, by a commutation tax on all persons subject to road duty, and by an ad valorem tax, or an acreage tax, or by any such methods, provided the act shall not repeal any other act or alter any other method of working public roads, and shall not apply to any county until such county shall, by an order of the supervisors, elect to come under the provisions of this act. Held, that chapter 150 did not provide a complete method of raising funds for working the roads thereunder, so as to repeal by implication section 4469; and hence a city could recover thereunder, from a county electing to come under the provisions of chapter 150, one-half of the taxes collected by the county treasurer on property within the city limits for road purposes.—Supreme Court of Mississippi, 61 S. R. 703.

NEWS OF THE SOCIETIES

Calendar of Meetings.

June 9-13.
INTERNATIONAL ASSOCIATION OF CHIEFS OF POLICE.—Twentieth Annual Convention, Raleigh Hotel, Washington, D. C. Major Richard Sylvester, Superintendent of Police, Washington, D. C., President.

June 10-11.
MINNESOTA STATE FIREMEN'S ASSOCIATION.—Annual Convention, Thief River Falls, Minn.

June 10-12.
NORTH DAKOTA FIREMEN'S ASSOCIATION.—Annual Convention, Bismarck.—H. L. Reade, secretary, Bismarck, N. D.

June 11-13.
MARYLAND STATE VOLUNTEER FIREMEN'S ASSOCIATION.—Twenty-first Annual Convention, Westport.

June 23-27.
AMERICAN WATER WORKS ASSOCIATION.—Thirty-third Annual Meeting, Minneapolis, Minn. John M. Diven, Secretary, 47 State street, Troy, N. Y.

June 23-28.
INTERNATIONAL ROADS CONGRESS.—Third Congress, London, England. W. Rees, Jeffreys Secretary, Queen Anne's Chambers, Broadway, Westminster, London, S. W.

June 24-26.
UNION OF TEXAS CHIEFS OF POLICE AND CITY MARSHALLS.—Annual Convention Galveston, Tex.—Holles Baum, Chief of Police, Waco, President.

June 24-26.
SOUTH CAROLINA STATE FIREMEN'S ASSOCIATION.—Annual Convention, Abbeville. Chief Elgin, Abbeville, S. C.

June 24-28.
AMERICAN SOCIETY FOR TESTING MATERIALS.—Annual Convention, Atlantic City, N. J. Edgar Marburg, Secretary, University of Pennsylvania, Philadelphia, Pa.

June 27-29.
LOUISIANA STATE FIREMEN'S ASSOCIATION.—Eighth Annual Convention, Opelousas.

July 8-10.
INDIANA LEAGUE OF MUNICIPALITIES.—Annual Convention, Gary. A. P. Melton, Secretary, Gary.

July 15-17.
UNION OF CANADIAN MUNICIPALITIES.—Thirteenth Annual Convention, Saskatoon, Sask. W. D. Lighthall, Hon. Secretary-Treasurer, 305 Quebec Bank Bldg., Montreal, Canada.

July 21-26.
IOWA STATE FIREMEN'S ASSOCIATION.—Annual Convention, Perry.

July 22-25.
LEAGUE OF WISCONSIN MUNICIPALITIES.—Annual Convention, Neenah, Wis.

August 5-8.
NEW YORK STATE FIREMEN'S ASSOCIATION.—Annual Convention, Brockton.

August 19-22.
INTERNATIONAL ASSOCIATION OF MUNICIPAL ELECTRICIANS.—Eighteenth Annual Convention, Watertown, N. Y.

August 25-30.
FOURTH INTERNATIONAL CONGRESS ON SCHOOL HYGIENE, Buffalo, N. Y. Dr. Thomas A. Story, Secretary General, College of the City of New York.

August 26-28.
CENTRAL STATES WATER WORKS ASSOCIATION.—Seventeenth Annual Meeting, Cedar Point, O.—R. P. Bricker, Secretary, Shelby, O.

September 1-6.
INTERNATIONAL ASSOCIATION OF FIRE ENGINEERS.—Forty-first Annual Convention, Grand Central Palace, New York City. James McFall, Secretary, Roanoke, Va.

September 9-13.
AMERICAN PUBLIC HEALTH ASSOCIATION.—Annual Convention, Colorado Springs, Col.—S. M. Gunn, secretary, 755 Boylston street, Boston, Mass.

September 29-October 4.
AMERICAN HIGHWAY ASSOCIATION.—Annual Convention, Detroit, Mich. J. E. Pennybacker, Secretary, Washington, D. C.

October 7-10.
AMERICAN SOCIETY OF MUNICIPAL IMPROVEMENTS.—Twentieth Annual Meeting, Wilmington, Del.—A. Prescott Folwell, Secretary, 50 Union Square, New York City.

December 9-12.
AMERICAN ROAD BUILDERS' ASSOCIATION.—Annual Convention, First Regiment Armory, Philadelphia, Pa. E. L. Powers, Secretary, 150 Nassau street, New York City.

American Highway Association.

The American Road Congress will hold its third annual meeting at Detroit during the week of September 29. This decision was reached by the joint committee of which Logan Waller Page, Director of the United States Office of Public Roads, is chairman, after a spirited contest which finally narrowed down to the cities of St. Louis, Denver, Minneapolis and Detroit. The Congress is the great annual assemblage of the good roads organizations throughout the United States and is held under the auspices of the American Highway Association, the American Automobile Association and the National Association of Road Machinery and Material Manufacturers, the latter organization being concerned primarily with the exposition of machinery and materials held in conjunction with the Congress.

As there are between thirty and forty state and interstate organizations identified with the American Highway Association in addition to its 1,800 regular members, the big meeting will be thoroughly representative in character.

Arrangements have just been made to hold the annual meeting of the Michigan State Good Roads Association which has 15,000 members, the newly organized Michigan Trunk Line Association, and the Ontario, Good Roads Association, in conjunction with the congress. The combined attendance of these various road organizations will be well over 5,000 and will certainly set a new record far in advance of attendance figures at any previous good roads meeting in the United States.

The foremost engineers and contractors will join with distinguished laymen in making the program complete and effective. The sessions will be arranged as heretofore so as to specialize on construction, maintenance, legislation, administration, economics, etc. It has been decided to have a special session for the benefit of contractors, and in order to make this session of practical value to the contractor, a committee composed of some of the best informed men on contract work in this country will have full charge of preparing the program and conducting the session.

The exposition will be held on the ground floor of the Wayne Gardens immediately under the large hall in which the sessions of the Congress will be held, and, in order to meet the requirements of the companies which manufacture heavy road building machinery, a large vacant lot and an adjoining street will be transformed into exhibit space by the erection of a large tent in which heavy machinery may be exhibited and demonstrated. As heretofore the remarkable government exhibit of road models will be a feature of the exposition together with the various state exhibits which will be shown in

much larger number than at the congress held in Atlantic City in 1912.

The officers of the Congress are Logan Waller Page, Director of the United States Office of Public Roads, President; Lee McClung, former Treasurer of the United States, Treasurer; J. E. Pennybacker, Secretary of the American Highway Association, Secretary; and Charles P. Light, former State Highway Commissioner of West Virginia, Assistant to the President. The headquarters of the Congress are in the Colorado Building, Washington, D. C.

American Society of Civil Engineers.

The program for the forty-fifth annual convention of the American Society of Civil Engineers to be held at Ottawa, Canada, will be opened on the afternoon of June 17 with a reception to the members and their guests by the Premier, the Right Honorable R. L. Borden, and the Mayor of Ottawa, at the Chateau Laurier. An informal reception will also be held that evening by the officers of the society. The first session will open Wednesday morning, June 18, with the president's address, followed by a business meeting. The members and guests are invited to a garden party at the residence of Mr. T. C. Keefer, C. M. G., past president of the Am. Soc. C. E., in the afternoon.

Transportation routes in Canada, Canadian water power, navigation and grain elevators on the Great Lakes, and kindred subjects are expected to furnish the topics for illustrated lectures to be held in the ball room of the Chateau Laurier Wednesday evening. Thursday afternoon will be devoted to a motor drive through the city, with tea at the residence of Sir Sandford Fleming. The Canadian Society of Civil Engineers will tender a reception to members and guests in the evening. Friday's program will be announced at the convention.

Indiana Municipal League.

Arthur D. Cunningham, president of the I. M. League, has announced the program for the annual convention for that organization, which is to be held at Gary, July 8, 9 and 10. Its opening session will be held at 1:30 o'clock, Tuesday, July 8. Thomas F. Knotts, mayor, will deliver the address of welcome and the response will be made by Mayor Shank of Indianapolis. Following this the delegates will inspect the city school buildings of Gary.

At the Tuesday evening session Dr. J. N. Hurty of Indianapolis will speak on "The Sanitation of a City," and the discussion will be led by W. C. Duncan, president of the board of health of Columbus, Ind.; Dr. W. G. Swank, secretary of the board of health of Crawfordsville, and Dr. W. S. Faulds, president of the Gary board of health. Short talks will then be made by a number of Gary citizens.

At the Wednesday morning session Thomas Duncan, president of the public service commission, will speak on "What Benefits Are Derived by a City from the Public Utilities Law?" The

discussion will be led by Lawrence Becker, ex-Mayor of Hammond, and W. D. Hamer, city attorney of Huntington. Wednesday afternoon and evening will be spent by the delegates in inspecting streets, sewers, parks, water and light plants and the factories of Gary.

At a final session, Thursday morning "The Engineering Department of a City" will be discussed by Ezra Shoecraft, city engineer of Laporte, and A. P. Helton, city engineer of Gary. "Sewage Disposal" will be discussed by C. J. Cottingham, city engineer of Noblesville. The last paper will be one on "One City's Water Plant," by Robert H. McGrath, president of the board of public works of Lafayette. The election of officers will then take place.

North Dakota Good Roads Association.

The following program has been arranged for the convention, Fargo, June 10-11: Tuesday, June 10, 10 a. m.—Road building demonstration. 2 p. m.—Opening of convention. Address, Good Roads and How to Get Money to Build Them, Gov. L. B. Hanna. 2:45 p. m.—Address by representative of good roads department of national government. 3:30 p. m.—Question box hour, direction of Prof. T. A. Hoverstad.

Wednesday, June 11, 10 a. m.—Road building demonstration. 2 p. m.—Address, Good Roads from the Engineer's Viewpoint, Hon. T. R. Atkinson. 2:45 p. m.—Address, Dirt Road Maintenance, Prof. C. H. Chase, N. D. A. C. 3:30 p. m.—Question box hour, direction of Prof. T. A. Hoverstad.

Weights and Measures Association of the State of New York.

The sixth annual convention was held at Buffalo, N. Y., May 20-21. About 110 sealers and other officials were present. Mayor Fuhrman in the course of his address of welcome said that he appreciated the work of the department in Buffalo and that he would like to have one sealer in each ward in the city. Dr. Fritz Reichmann, president of the association, presided and responded to the mayor's address and then resigned the chair in favor of Charles J. Quinn, city sealer of Buffalo, who is one of the vice-presidents of the organization. Other addresses at the morning session were by John L. Walsh, commissioner of weights and measures of New York city; Charles Pettis of Rochester, of the New York Central Railroad's inspection force, and Mrs. Frank J. Schuler, president of the New York State Federation of Women's Clubs. The principal address was made by S. E. Strode, food commissioner of Columbus, O. He said that although Ohio was working hard to establish as competent a force of sealers as New York, they were still looking to this state for guidance. At the annual dinner Samuel Bell Thomas spoke as the personal representative of Governor Sulzer. Wm. G. Justice, officially representing the Mayor, spoke of the work of the city sealers. During the session of the sec-

ond day there was a discussion on the county sealer's work and difficulties. The speakers were Frank A. Wood of Nassau county, Clayton C. Blood of Orleans, E. T. Cook of Alden, C. H. Bulson of Jefferson and H. Gaffey of Herkimer. Another discussion was on the city sealer's work under ordinance. During this discussion D. C. Starks of Port Jervis accused the county sealers of being lax in their work and allowing the blame for omissions to fall on the city sealers. Others who took part in the discussion were John Gumberg of Binghamton, Frank Martell of Watertown and James Kernan of Syracuse. Vice President J. L. Walsh presided at the meetings.

Ocean to Ocean Highway Association.

The fund being raised for the construction of a perfect highway to extend across the continent from New York to Chicago has been increased \$2,500,000 through the subscription of the Association of American Portland Cement Manufacturers. This represents one per cent. of the cement production for a period of three years and, it is said, assures the success of the highway movement. The motion passed the Cement Manufacturers without a dissenting vote, and the organization further approved of the project by a set of resolutions heartily endorsing it.

In these resolutions it was set forth that the present type of public highways does not meet the demands of changing conditions, arising from the rapid change from horsedrawn to self-propelled vehicles. This problem is one which has been carefully investigated by the Association of American Portland Cement Manufacturers with the result that the question of the Ocean-to-Ocean Highway was presented before the meeting of the organization at Chicago.

New England Water Works Association.

The regular June Outing of the Association will be held on Wednesday, June 11, 1913, and will consist of an excursion by steamer to Bass Point and Beverly, Mass., and a visit to the extensive plant of the United Shoe Machinery Company, in Beverly.

The steamer King Philip, Capt. Edward Dixon, has been chartered for the day, for the exclusive use of the party. Members will assemble at Commercial Wharf, 98 Atlantic Avenue. This point may be reached most easily by the Atlantic Avenue Elevated line, leaving at State Street Station. The wharf is a short distance north of State street.

The steamer will sail at 10 o'clock a. m. After a trip among the islands of the harbor, the party will land at Bass Point, where a Shore dinner will be served at the Bass Point House. The party will then return to the steamer and proceed to Beverly, where special Electric Cars will be provided for the trip to the plant of the United Shoe Machinery Company, where are said to exist the best industrial conditions extant, for people in a Manufac-

turing Plant, exceptionally well lighted and ventilated buildings, safe-guarded against accident, with all sanitary arrangements making for good health, together with a fully equipped club house, with rest, reading, recreation rooms, and restaurant, and athletic field with shooting range, and Tennis courts. After examining the plant the party will return to the steamer, reaching Boston between 6 and 6.30 o'clock p. m.

PERSONALS

Durham, Henry Welles, Chief Engineer of Highways, Borough of Manhattan, has been appointed by the Mayor a delegate to represent the City of New York at the Third International Road Congress, in London, and to make for the city a study of paving and street maintenance in European cities.

Townsend, Frank T., Assoc. M. Am. Soc. C. E., formerly first assistant engineer of the New York State Highway Department has accepted the position of assistant engineer, in the Inspection Department of The Dunn Wire-Cut-Lug Brick Company, of Conneaut, Ohio. Mr. Townsend is a graduate of Rensselaer Polytechnic Institute and has been with the New York State Highway Department for the past five years, principally on brick pavements construction. The business of the Dunn Wire-Cut-Lug Brick Company has increased to such an extent as to make it necessary to enlarge this department.

The following municipal officials have recently been elected or appointed:

Peoria, Ill.—Commissioner of Public Works, S. W. Eckley; Comptroller, J. J. Crowder; Supt. of Sewers, Wm. Conrad; City Engineer, Leonard D. Jeffries; Assistant City Engineer, H. J. Bridegroom; Fire Marshall, T. H. Worm; Health Commissioner, Edw. Hasson; Bacteriologist and Chemist, R. C. Bradley; Fire and Police Commissioner, W. C. Cushing.

East St. Louis, Ill.—Chief of Police, Ransom Payne; City Engineer, E. F. Harper; Superintendent of Streets, D. G. Wuersch; Health Commissioner, Dr. L. B. Shaw; Chief of Fire Department, M. J. Tobin.

Grand Rapids, Mich. — President Husted has appointed the following members of committees: Drains and Sewers, Barth and Ryan; Garbage, Ryan, Vost and Roller; Purchasing, Roller, Ryan and Barth.

Quincy, Ill.—Chief of Police, George Koch; Chief of Fire Dept., George Marriotte; City Comptroller, A. Glinderman.

Sinking Spring, Pa.—The newly organized borough council has selected the following committee members: Streets, A. B. Madeira, J. B. Machemer, H. L. Fisher; Light, J. P. Reeser, H. G. Lambert, H. L. Fisher; Finance, D. G. Miller, A. B. Madeira, J. B. Machemer. Thomas J. Oberlin is president of council.

Belvidere, Ill.—Chief of Police, Jas. Downes; Fire Chief, Frank Clark; St. Commissioner, Homer Kennedy; Bd. of Health, A. J. Markley, R. B. Andrews; City Eng. and Superintendent Waterworks, W. M. Marean. Following are members of council committees: Purchasing, Robinson, Youngreen, Johnson; Finance, Hopkins, Robinson, Rairdin; Sewers, Hammond, Witt, Leitzell; Streets, Fox, Robinson, Rairdin, Walters, Hammond; Fire and Water, Rairdin, Witt, Fox; Electric Light, Rairdin, Hopkins, Youngreen; Paving, Witt, Leitzell, Johnston; Parks, Robinson, Hopkins, Youngreen.

Fort Worth, Tex.—Mayor, R. F. Milan; Police and Fire Commissioner, R. M. Davis; Finance Commissioner, W. H. Smith; Comr. of Sts., J. F. Grant; Comr. of Waterworks, L. H. Blanke; Comr. of Lights, J. A. Allen; Secy., Emmett Moore; Secy. of Waterworks, M. Scott; City Engineer, F. J. Von Zugen; Purch. Agt., F. M. Graves.

Raleigh, N. C.—Mayor, J. I. Johnson; Comr. of Public Safety, O. G. King; Comr. of Public Works, R. B. Seawell.

LOUISIANA.

Dubach—Mayor, J. F. Meeks.
Wilson—Mayor, T. C. Cunningham.
South Mansfield—Mayor, A. J. Herbert.

Lake Charles—Mayor, J. H. Leggett.
Thibodaux—Mayor, A. J. Trone.
Vidalia—Mayor, Phillip Hough.
Alexandria—Mayor, W. W. Whittington, Jr.

Jennings—Mayor, John Gambell; Commissioners, P. H. Hough, C. D. Andrews.

Roseland—Mayor, W. E. Palmer.

Grand Coteau—Mayor, E. V. Barry.

MISSOURI.

St. Charles—Mayor, J. N. Olson, re-elected.

OREGON.

St. Johns—Mayor, Chas. Bredeson.

St. Helens—Mayor, A. W. Mueller.

Eugene—Mayor, D. E. Yoran.

COLORADO.

Colorado Springs—Mayor, C. L. McKesson.

GEORGIA.

Hazelhurst—Mayor, B. B. McDonald, re-elected.

La Grange—Mayor, J. D. Edmundson.

Perry—Mayor, F. H. Houser.

KANSAS.

Medicine Lodge—Mayor, Samuel Griffin.

Morland—Mayor, W. R. Cunningham.

NEW JERSEY.

Long Branch—Mayor, M. V. Poole.

Vineland—Mayor, Benjamin Stevens.

Franklin—Mayor, D. W. McCarthy.

TEXAS.

Munday—Mayor, O. W. Lee.

Gorham—Mayor, W. M. Collie.

El Paso—Mayor, C. E. Kelly, re-elected; Commissioners, James Hewitt, W. S. Clayton, C. H. Leavell, D. H. Levy.

Mineola—Mayor, E. A. Thorp.

San Antonio—Mayor, C. J. Brown.
Delhart—Mayor, R. Tatum.
Austin—Mayor, A. T. Woolridge; Commissioners, E. C. Bartholemew, H. L. Haynes, P. W. Powell, W. B. Anthony.

TENNESSEE.

Camden—Mayor, R. L. Stockard.
Cookeville—Mayor, O. K. Holliday.
Alamo—Mayor, J. F. Agee.
Dayton—Mayor, J. R. Crawford.
Codeville—Mayor, O. K. Holliday.

SOUTH DAKOTA.

Wagner—Mayor, John Stedronsky.
Ipswich—Mayor, L. J. Thomas.

DELAWARE.

St. Georges—Mayor, W. G. Janvier.

SOUTH CAROLINA.

Bamberg—Mayor, E. C. Hays.
Beaufort—Mayor, W. R. Bristol.

NORTH CAROLINA.

Henderson—Mayor, L. P. Perry.
Salisbury—Mayor, W. H. Woodson.
Wilmington—Mayor, P. Q. Moore.
Raleigh—Mayor, J. I. Johnson; Commissioners, O. G. King, R. B. Seawell.

Sanford—Mayor, T. L. Bass.

Washington—Mayor, F. C. Kugler.

Bridgeton—Mayor, I. W. Rogers.

MICHIGAN.

Traverse City—Mayor, John Straub.
Holland—Mayor, Bosch, re-elected.

MARYLAND.

Harve de Grace—Mayor, M. E. Carroll.

Mount Rainier—Mayor, W. H. Venneman.

Hyattsville—Mayor, H. W. Shepherd.

IOWA.

Glenwood—Mayor, F. E. Donelan.

WEST VIRGINIA.

Martinsburg—Mayor, J. A. Rickard.

NEBRASKA.

South Omaha—Mayor, Thomas Hector.

WYOMING.

Dayton—Mayor, Susan Wissler, re-elected.

Rock River—Mayor, Frank Cummings.

WASHINGTON.

Aberdeen—Mayor, Eugene France.

ILLINOIS.

Effingham—Mayor, John Shea.

Lawrenceville—Mayor, N. H. Tohill.

Greenfield—Mayor, G. A. Holanbach.

Anna—Mayor, E. S. Alden.

West Frankfort—Mayor, J. M. Shaw.

MUNICIPAL APPLIANCES

Thew Electric Shovel.

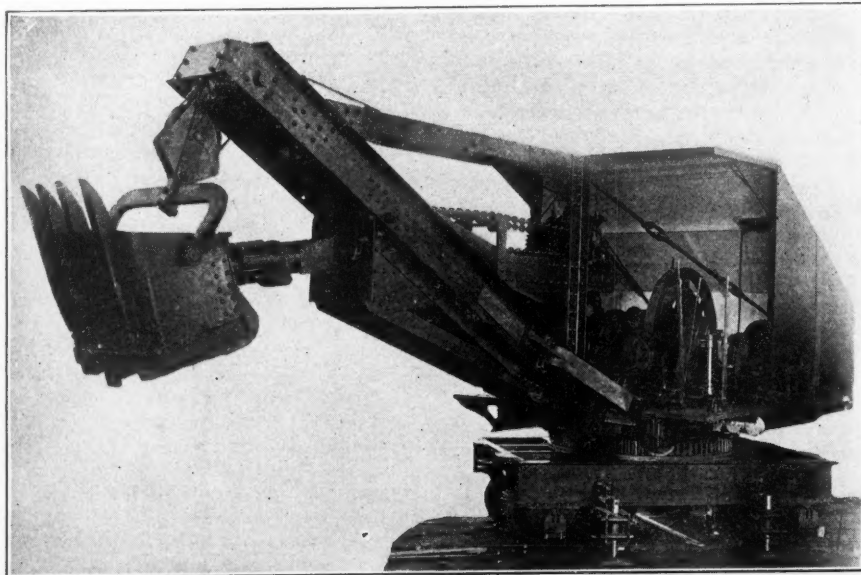
The electric shovel is becoming more and more popular for use in places where current is available because of its simplicity, reliability, and economy of operation. The elimination of the boiler does away with considerable attendance and maintenance expense, and the ruggedness of the modern electric motor makes it an ideal form of power for rough work of this nature.

The shovel illustrated herewith is a comparatively new type and has been designed to secure thoroughly successful operation with the simplest construction. It is driven by a 35 h. p. Westinghouse induction motor and has a capacity of 1 or 1¼ cubic yards. The

motor runs continuously while the shovel is in use; the various motions of the shovel being controlled mechanically by means of levers.

The clearance height of the boom is 12 feet from the rail. The clearance sweep of the boom is 18 feet, and of the rear end, 8 feet. The shovel has a horizontal crowd of 7 feet. Three dippers a minute can be handled by the shovel, but the average rate, due to delays in waiting for cars, moving up the shovel, etc., is about one dipper a minute.

This shovel is made by the Thew Automatic Shovel Company, Lorain, Ohio.



THEW SHOVEL WITH WESTINGHOUSE MOTOR.

Small Refrigerating Machine.

For a number of years it has been a question whether the supply of refrigeration is a municipal function or not. Attempts have been made in a number of cities to municipalize the ice supply on a large scale. However, there has never been any question of the right of a city to make ice on a moderate scale for use of hospitals and other city buildings. The indications are that the scarcity of ice this year will make the desirability of exercising this function much greater than ever before. In fact, there have already been an unusual number of proposals asked for refrigerating machines for public buildings.

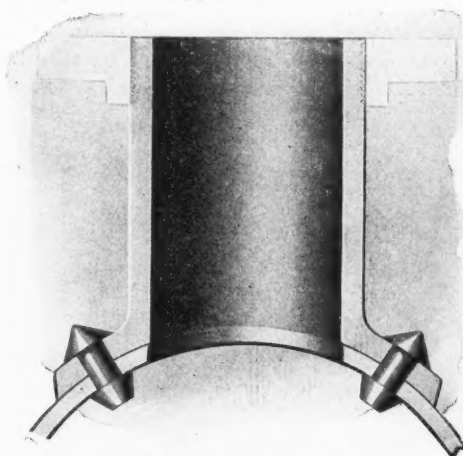
The H. W. Johns-Manville Co., Madison avenue and 41st street, New York



SMALL REFRIGERATING MACHINE.

City, make a machine of moderate capacity—anywhere from 11 to 110 pounds of ice per hour. The machine is a French invention and is called the Audiffren-Singrun machine. Its main outlines are shown by the illustration. The essential working part is a shaft carrying a hollow sphere, which is sent out from the factory completely charged and ready to operate. The shaft is revolved by a motor. There is a small brine pump carrying brine to a refrigerator or to ice molds as desired.

The machine operates on the compression system, using sulphur dioxide as its refrigerating agent. The fact that the machine cannot operate to increase its pressure limit is what makes the system practical for operation on a small scale. Mechanically, the lubrication system is remarkably perfect, machines having run for five years, it is said, with no appreciable wear.



FORGED STEEL FLANGE.

INDUSTRIAL NEWS

Cast Iron Pipe—Chicago.—Several municipal contracts have been awarded. Quotations: 4-inch, \$28.50; 6 to 12-inch, \$26.50; 16-inch and up, \$25.50. Birmingham—Foundries are operating almost to capacity. Prospects are better than they have been. Quotations: 4-inch, \$22.50; 6-inch, \$20.50. New York: There has been a decided increase in private buying. The Warren Foundry and Machine Company got the subcontract for high pressure pipe. Much more business has been closed than of late and inquiry continues active. Quotation: 6-inch, \$23 to \$24.

Lead.—Quotations: New York, \$4.35; St. Louis, \$4.20.

Wire-Cut-Lug Blocks.—The Dunn Wire-Cut-Lug Brick Company, Conneaut, O., state that they are meeting with very satisfactory success in the work of their Inspection Department in cooperating with local authorities throughout the country wherever wire-cut-lug blocks are used in order that the best possible type of construction may be obtained. Contractors using this material very gladly advise them as to when they begin the construction and a representative of the Engineering Department calls upon them at once. It is a safeguard to the contractor, the brick manufacturer and the local authorities.

Vitrified Brick.—The West Virginia Paving & Pressed Brick Company, Huntington, W. Va., will make large additions to its plant and increase its capacity.

Concrete Machinery.—The Ransome Concrete Machinery Co., Dunellen, N. J., have recently published a complete catalogue of their concrete mixers and other machinery for handling concrete. The manufacturers state in the preface that their machinery was used on the first two reinforced concrete factory jobs in the world and ever since then their line has been steadily to meet new conditions as they arise. As a guarantee of their ability to design and equip plants they call attention to the fact that they have had a three-fold experience, as engineers, contractors and manufacturers. They furnish designs for concrete plants without charge.

Forged Steel Flanges.

The American Spiral Pipe Works, Chicago, Ill., makers of Taylor's spiral riveted pipe, extensively used about water works for reservoirs, intake mains, filtration plants and suction lines, also make an extensive line of forged steel flanges for use on the steam lines in the power house and elsewhere. The illustration shows a saddle flange which is made bent to any circle and is attached with rivets. These flanges are said to constitute the safest and most reliable connections known.

Municipal Electrical Problems.

William L. Puffer, electrical engineer, 201 Devonshire street, Boston, Mass., in a letter addressed to municipal authorities having electrical matters in charge, enumerates a dozen or more problems regarding which he has been consulted by one or more of a list of twenty-three cities of Massachusetts. The matters regarding which Professor Puffer has been called upon to give advice are as follows: Location of high tension wires. Danger from high tension wires. Electrolytic injury to water pipes. Price for street arc lights. Price for street incandescent lights. Preparation of lighting contract. Valuation of plant. White way lighting. Electric pumping of water or sewage. Grounding of lightning arresters. Grounding transformers on water pipes. Testing candle power of street lights. Acceptance test of plant.

Cement.—According to an advance statement by Ernest F. Burchard of the United States Geological Survey, the total quantity of Portland, natural, and puzzolan cements produced in the United States in 1912 was 83,351,191 barrels, valued at \$67,461,513, compared with 79,547,958 barrels, valued at \$66,705,136, in 1911. This represents an increase in quantity of 3,803,233 barrels, or 4.78 per cent., and in value of \$756,377, or 1.13 per cent. The distribution of the total production among the three main classes of cement in 1912 is as follows: Portland, 82,438,096 barrels, valued at \$67,016,928; natural, 821,231 barrels, valued at \$367,222; puzzolan, 91,864 barrels, valued at \$77,363. The average price per barrel of Portland cement in 1912 was a trifle less than 81.3c., compared with 84.4c. in 1911. This represents the value of cement in bulk at the mills, including labor and cost of packing, but not the value of the sacks or barrels. The average price per barrel for the country is about 13.9c. higher than the average price received for Portland cement in the Lehigh district, where it was sold at the cheapest rate, and is near the average price received in the Iowa-Missouri district, but it falls 54.5c. below the average price received on the Pacific coast, where Portland cement brought the highest figure during the year. The apparent stock of Portland cement on hand at the end of 1912 in the Iowa-Missouri district, but it fails amounted to 7,811,329 barrels, compared with 10,385,789 barrels on hand at the close of 1911, according to reports and revised estimates, thus indicating a reduction in stock of more than 2,500,000 barrels during 1912.

Shoveling Machines.—The Myers-Whaley Co., Knoxville, Tenn., have issued a new catalogue of their shoveling machines. Among the illustrations shown is that of their No. 4 type rock shovel, at work in the aqueduct tunnel now under construction and nearly finished under New York City.

WEEKLY CONTRACT NEWS

ADVANCED INFORMATION

BIDS ASKED FOR

CONTRACTS AWARDED

ITEMIZED PRICES

To be of value this matter must be printed in the number immediately following its receipt, which makes it impossible for us to verify it all. Our sources of information are believed to be reliable, but we cannot guarantee the correctness of all items. Parties in charge of proposed work are requested to send us information concerning it as early as possible; also correction of any errors discovered.

BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
STREETS AND ROADS				
Canada,	Oshawa	Noon, June	7..Concrete highways, 15,000 yds.	F. Chappell, Town Eng.
N. Y.,	Buffalo	11 a.m., June	7..Paving and repaving	F. G. Ward, Comr.
N. Y.,	New York	2 p.m., June	9..Granite, wood, sheet asphalt, flagging, etc.	Geo. McAneny, Boro. Pres.
Wash.,	Everett	2 p.m., June	9..Road No. 458	A. L. Willhite, Comr.
O.,	Youngstown	Noon, June	9..Paving two streets	W. H. McMillen, Clk.
Pa.,	Washington	11 a.m., June	9..Furn. vitrified brick, 100,000 yds., bldg culverts.	J. H. Moffitt, Co. Compt.
Md.,	Frederick	June	9..State highway, 1 mile	L. G. Dinterman, Pres. Comrs.
N. D.,	Bismarck	8 p.m., June	9..Improving streets	R. H. Thistlethwaite, C. Aud.
Va.,	Norfolk	1 p.m., June	9..Repaving with wood, 1,500 yds.	W. T. Brooks, C. Eng.
Kan.,	Topeka	10 a.m., June	9..Brick, asphaltic concrete, etc.	C. B. Burge, C. Clk.
N. J.,	South Amboy	8.30 p.m., June	10..Vitrified brick	R. M. Mack, C. Clk.
N. Y.,	Newburg	5 p.m., June	10..Paving Liberty street	City Clk.
Wis.,	Madison	June	10..Asphalt, mixed macadam, 31,000 yds.	E. E. Parker, C. Eng.
Ind.,	Muncie	10 a.m., June	10..Gravel and macadam	F. M. Williams, Co. Aud.
Wash.,	Renton	7.30 p.m., June	10..Improving road	Grant Balet, City Clk.
Ala.,	Oneonta	June	10..Chert, 1 1/4 miles	Co. Comrs.
Can.,	Vancouver	2 p.m., June	10..Asphaltic concrete, vit. brick, creosoted block, cost \$1.200,000	F. L. Fellows, C. Eng.
Ill.,	Danville	June	10..Highway, 2 1/2 miles	W. S. Dillon, City Engr.
Iowa,	Greenfield	2.30 p.m., June	10..Concrete paving, 11,500 yds.	M. C. McCreight, Town Clk.
N. Y.,	Sidney	8 p.m., June	11..Brick pavement, 3,620 sq. yds.	W. Thorp, Vil. Clk.
O.,	Cleveland	11 a.m., June	11..Imp. road	F. R. Lander, Co. Survey.
N. J.,	Atlantic City	11 a.m., June	11..Furnishing and applying 6,000 gals. glutrin.	G. Jeffers, Ch. Comm.
Mich.,	Bay City	noon, June	11..Roads, 2 1/2 miles, 4 jobs.	J. H. Blomshield, Engr.
N. Y.,	Olean	8 p.m., June	11..Vit. brick, 750 yds., etc.	G. H. Luther, Clk.
N. Y.,	Brooklyn	11 a.m., June	11..Sheet asphalt, granite, etc.	A. E. Steers, Boro. Pres.
Wis.,	Madison	2 p.m., June	11..Improving streets	O. S. Norsman, C. Clk.
Cal.,	Oakland	11 a.m., June	12..Improving streets	F. N. Smith, C. Clk.
O.,	New Philadelphia	noon, June	12..Brick or asphalt	H. P. Fribley, Dir.
Ky.,	West Covington	8 p.m., June	12..Bit. macadam, etc.	R. L. Kennedy, C. Clk.
Ind.,	Ligonier	7.30 p.m., June	12..Brick asphalt, wood Dolarway, 5,700 yds.	R. E. Jeanneret, C. Clk.
Fla.,	Jacksonville	3 p.m., June	12..Dolarway, asphaltic concrete, vit. blocks, granitoid, asphalt blocks, 93,000 yds.	H. Gaillard, Ch. P. Wks.
W. Va.,	Huntington	June	12..Vit. brick	A. B. Maupin, C. Eng.
N. J.,	Kenilworth	8 p.m., June	12..Cement sidewalks, 6,000 sq. ft.	J. W. Higgins, Boro Eng.
D. C.,	Washington	2 p.m., June	12..Cement sidewalks	Dist. Comr.
N. J.,	Rutherford	8 p.m., June	13..Vit. brick, 25,800 yds.	F. A. Stedman, Boro. Clk.
Ill.,	Wyoming	noon, June	14..Concrete curbs and gutters.	G. H. Eversman, Vil. Clk.
Va.,	Cumberland C. H.	Noon, June	14..Sand clay roads, 7 1/2 miles.	P. St. J. Wilson, St. Hwy Com.
N. D.,	Dickinson	June	15..Concrete sidewalks &c.	R. C. Hill, C. Aud.
O.,	Struthers	noon, June	16..Vit. brick	I. Eisenbraun, Clk.
Okla.,	Okemah	June	16..Paving several streets.	O. L. Snow, Twn Clk.
N. J.,	N. Brunswick	2.30 p.m., June	16..Macadam roads	P. H. S. Hendricks, Dir.
O.,	Oakharbor	June	16..Brick paving 1,000 yds.	L. L. Carstensen, C. Clk.
Wash.,	Everett	2 p.m., June	16..Road, 3 1/2 miles	A. L. Willhite, Comr.
Ala.,	Moulton	June	16..Macadamizing, 3 miles	Co. Bd.
Minn.,	Minneapolis	June	16..Gravel, 3 roads	Co. Comrs.
Ala.,	Hayneville	June	16..Grading, 7 miles; cost, \$8,000	Bd. of Revenue.
Pa.,	Glenlyon	June	16..Stone road in Newport Township.	W. O. Davis, Secy.
Wis.,	Marinette	2 p.m., June	17..Brick and macadam	A. L. Hillis, C. Eng.
N. J.,	Bayonne	June	17..Asphaltic pavement, 15,500 sq. yds.	W. P. Lee, C. Clk.
Minn.,	Hastings	June	17..Roads	F. A. Hoffman, Co. Aud.
N. J.,	Ridgefield Park	June	17..Improving Hazelton Street	N. D. Starkner, Vil. Clk.
Fla.,	Tampa	2 p.m., June	17..Vit. brick, 18,330 yds.; 4 contracts.	Bd. of Pub. Wks.
Fla.,	Crescent City	noon, June	18..Shell road, 1 mile	F. C. Smith, Clk.
O.,	Warren	noon, June	19..Vitrified brick, asphalt, wood, etc.	W. E. Dilley, City Aud.
Wash.,	Everett	10 a.m., June	19..Imp. street	Comrs.
Can.,	New Hamburg	8 p.m., June	19..Cement sidewalks	J. F. Katzenmier, Clk.
Ala.,	Linden	June	24..Surfacing road, 4 miles	Co. Comrs.
Ga.,	Savannah	June	25..Sheet or block asphalt or creosoted wood, 17,000 yds.	E. R. Conant, Chf. Eng.
Ala.,	Greenville	June	25..Sand-Clay road; cost, \$10,000	Co. Comrs.
Ind.,	Richmond	11 a.m., June	26..Improving highway	H. F. Wood, Co. Aud.
Ala.,	Birmingham	June	27..Macadam road	Bd. of Revenue.
Ala.,	Anniston	June	28..Macadam, 1 1/2 miles	Co. Comrs.
SEWERAGE				
N. Y.,	Buffalo	June	7..Brick and tile sewers	F. G. Ward, Comrs.
Me.,	Biddeford	8 p.m., June	9..Concrete sewer, egg-shape, 2,950 ft., 1,350 ft. 24 and 30-in. circular	W. C. Bigelow, C. Eng.
Minn.,	New Ulm	June	9..Sewers in several streets.	A. J. Meyer, City Clk.
la.,	Eldorado	June	9..Sewers, 2 miles 8 to 15-in.	S. B. Gardner, C. Clk.
O.,	Gibsonburg	noon, June	9..Storm sewer	W. J. Ameling, Vil. Clk.
O.,	Columbus	noon, June	10..Southern relief sewer	S. A. Kinnear, Dir.
N. J.,	Ridgefield Pk.	9 p.m., June	10..Improving Hazelton St.	M. D. Starkner, Clk.
Vt.,	Bellows Falls	8 p.m., June	10..Sewers	H. C. Bacon, Pres. Bd. Trus.
Ind.,	West Marion	June	10..Sewer; cost, \$30,000	City Engr. Petrie.
Ind.,	Logansport	June	10..Brick and pipe sewers; cost, \$44,000	H. H. Thompson, C. Eng.
N. Y.,	Schenectady	2.30 p.m., June	11..Sanitary intercepting sewer, 8,150 lin. ft.	F. E. Johnson, Sec
Mich.,	Saline	Noon, June	11..Sewer system	Homer Fish, Vil. Clk.

BIDS ASKED FOR

STATE	CITY	REC'D UNTIL	NATURE OF WORK	ADDRESS INQUIRIES TO
N. Y., Brooklyn	11 a.m., June	11..	Pipe sewers	A. E. Steers, Boro. Pres.
Cal., Anaheim	8 p.m., June	12..	Vit. pipe, 4,900 ft. 4-in.	E. B. Merritt, C. Clk.
O., Niles	noon, June	12..	Sanitary sewers	J. E. Tregaskis, Clk.
W. Va., Huntington	June	12..	Sewers, 24-in. trunk and lateral	A. B. Maupin, C. Eng.
Ark., Brinkley	8 p.m., June	12..	Sewers, 7 miles 8 to 12-in.	B. Emmons, Ch. Comrs.
W. Va., Bluefield	June	13..	Pipe sewer, 6,500 ft. 15-in.	Bd. of Affairs.
Ky., Danville	2 p.m., June	14..	Vit. pipe, 3,700 ft. 8 to 39-in.	J. M. Wallace, Mayor.
Cal., San Diego	June	15..	Two septic tanks	W. O. Sandford, C. Eng.
Wis., Marinette	June	15..	Brick sewer, 3,300 ft. 36 & 42-in.	A. L. Hillis, C. Eng.
N. J., Plainfield	8 p.m., June	15..	Vit. pipe, 7,500 ft. 10 & 12-in.	J. T. MacMurrey, C. Clk.
N. D., Dickinson	June	15..	Pipe sewer, 10,000 ft. 8 to 15-inch	W. R. Veigel, City Engr.
Tex., Houston	June	16..	Storm sewer, 7,640 ft. of 42 to 102-in.	D. C. Smith, C. Secy.
N. J., Bayonne	June	17..	Vit. pipe, 1,200 ft. 12-in.	W. P. Lee, C. Clk.
Va., Pulaski	3 p.m., June	17..	Vit. pipe, 10 miles 6 to 18-in.	J. T. Loving, Mayor.
Wis., Park Falls	7.30 p.m., June	18..	Vitrified pipe, 10,000 ft. 6 and 8-in.	J. S. Blanchard, C. Clk.
N. Y., Schenectady	2.30 p.m., June	18..	Sewage disposal works	F. E. Johnson, Sec. Bd. C. & S.
Mass., Boston	noon, June	19..	Automatic electric sewage pumping plant	L. K. Rourke, Comr. P. Wks.
Ark., Brinkley	8 p.m., June	19..	Pipe sewers, 7 miles 8 to 12-in.	E. Chaney, Ch.
S. C., Walterboro	July	1..	Pipe sewers, 4 miles, 8 to 12-in.	S. N. Johnston, Eng.
N. J., Newark	July	1..	Three centrifugal pumping engines	J. S. Gibson, Clk. Comrs.
N. J., Newark	July	15..	Section 1, Passaic Valley sewer	Comrs.
Mo., Webster Groves	July	21..	Vitrified pipe and disposal plant; cost, \$20,000	W. A. Fuller, C. Eng.
La., New Orleans	July	28..	Extending drainage pumping station	F. S. Shields, Secy.
WATER SUPPLY				
Ill., Rushville	June	7..	Two centrifugal pumps and motors, etc.	J. C. Graff, Ch.
D. C., Washington	June	7..	Reservoir at hospital	Quartermaster.
Minn., Raymond	7.30 p.m., June	7..	Water main, 350 ft. 4-in.	E. Bruns, Vil. Record.
Tex., Winnsboro	9 a.m., June	9..	Cast-iron pipe, 40 HP. gas engine, pump, tank, etc.	W. D. Sulter, Mayor.
Wash., Fort Flagler	June	9..	Mains, 6,000 ft.	C. Q. M.
la., Eldorado	June	9..	Water mains, 1 mile 4-in.	S. B. Gardner, C. Clk.
Canada, Leamington	June	10..	Concrete reservoir	R. M. Selkirk, Twn. Clk.
O., Cleveland Heights	Noon, June	10..	Water pipe, 8-in.	H. Canfield, Vil. Clk.
Canada, Prince Albert	Noon, June	12..	C-i. pipe, 50,000 ft. 6 to 11-in., valves, &c.	H. M. Baker, C. Engr.
O., Bellevue	noon, June	12..	Water meters, 200 %, etc.	John Scullen, Dir. P. S.
O., Pleasant City	Noon, June	13..	Mains, 11,000 ft. 6 & 8-in. deep well pumps, reservoir, etc.	M. F. Devine, Vil. Clk.
Va., Front Royal	June	13..	Sewer works and sewage system	Capt. W. W. Whiteside.
N. Y., Fort Porter	June	14..	Filtration plant, remodelling water system	Quartermaster.
Neb., Norfolk	June	16..	Extensions	F. Stafford, City Clk.
Conn., Hartford	June	16..	Steel, 7½ miles, 42 to 44-in.	Water Comrs.
Cal., Los Angeles	2 p.m., June	17..	Water meters	J. P. Vroman, Secy.
N. J., Bayonne	June	17..	Cast-iron pipe, 5,000 ft. 8-in.	S. J. Harwy, C. Eng.
Mont., Billings	June	17..	Pumping plant	C. E. Durland, City Engr.
R. I., Providence	June	18..	Pumping plant, 30,000,000 gals.	Bd. Con. & Supply.
Mich., Saline	6 p.m., June	18..	Water works	Homer Fish, Vil. Clk.
Ga., Royston	July	1..	Water works and sewers	C. B. Wellborn, Mayor.
Egypt, Cairo	July	1..	Furn. equipm't for pump'g station, 7,000,000 meters	Pub. Works Ministry.
LIGHTING AND POWER				
Cal., Venice	5 p.m., June	9..	Concrete lighting posts	C. S. Thatcher, C. Clk.
O., Columbus	June	10..	Cluster lights, 5 streets	S. A. Kinnear, Dir.
Mich., Northville	June	10..	Concrete spillway	S. Wilkinson, Supt.
Mich., Detroit	June	10..	Turbo generator, 5,000 KW, etc.	F. T. Vowles, Secy. Comm.
Canada, Kamloops	June	12..	Hydro-electric equipment	J. J. Carment, C. Clk.
Tex., Galveston	noon, June	12..	Ornamental trolley and light posts	J. D. Kelly, Secy.
N. J., Camden	8 p.m., June	15..	Power station, boiler & generating equipment, electrical work for station & distribution system	F. A. Finkelday, Chrmn. Com.
Cal., San Francisco	June	18..	Generator for machine shop	Bd. of Pub. Wks.
O., Cincinnati	June	23..	Lighting system in schools	C. W. Handman, Mgr.
FIRE EQUIPMENT				
Ga., Atlanta	Noon, June	7..	Fire hose, 2½-in.	J. H. Goldsmith, C. Compt.
Mont., Lewistown	June	9..	Motor comb. chemical and hose	City Council.
N. J., Glenridge	8 p.m., June	9..	Fire alarm system	J. A. Brown, C. Clk.
Tex., Dennison	3 p.m., June	9..	Fire station	A. E. Clymer, Secy.
S. C., Columbia	June	12..	Fire hose, 2,000 ft.	C. F. Cooper, C. Clk.
Canada, Vancouver	June	12..	Two motor city service trucks and combination hose and chemical auto	Wm. McQueen, C. Clk.
N. J., Red Bank	June	16..	Motor triple comb. apparatus	A. C. Harrison, Boro. Clk.
R. I., Newport	5 p.m., June	19..	Motor comb. chemical and hose, 2 tanks	F. N. Fullerton, C. Clk.
Va., Lynchburg	4 p.m., June	20..	Aerial ladder, motor driven; chief's car	W. G. Jones, Ch. Comm.
BRIDGES				
Ind., Richmond	11 a.m., June	7..	Concrete arch bridge	L. S. Bowman, Co. Aud.
Cal., Modesto	10 a.m., June	7..	Concrete trestle	Co. Supervisors.
S. C., Edgefield	June	7..	Steel bridge, 125 ft.	Co. Comrs.
Va., Covington	June	7..	Concrete bridge, 140 ft.; other bridges	Clk. of Circuit.
Neb., Minden	June	8..	Bridges	J. H. Jensen, Co. Clk.
Minn., Hallock	June	9..	Two bridges	C. J. Hemmingson, Co. Aud.
Col., Brighton	noon, June	9..	Concrete bridge	Co. Comrs.
Me., Bangor	7 p.m., June	10..	Superstructure and approaches to bridge	Street Engrs.
O., Zanesville	11 a.m., June	12..	Superstructure, 600 ft. long	H. H. Kennedy, Clk.
N. J., New Brunswick	2.30 p.m., June	16..	Concrete bridge	A. W. Bissett, Clk. Bd. Freeholders.
O., Freemont	June	16..	Four bridges	Co. Comrs.
O., Akron	Noon, June	20..	Reinforced concrete bridge	C. L. Bower, Clk.
O., Toledo	10 a.m., June	24..	Concrete abutments and culverts	C. J. Sanzenbacher, Co. Aud.
D. C., Washington	2 p.m., June	24..	Seven-span concrete bridge	District Comrs.
MISCELLANEOUS				
Ill., Magnolia	2 p.m., June	7..	Concrete retaining wall	F. M. Glover, Twn. Clk.
N. J., Camden	11 a.m., June	9..	Ballot boxes	W. W. Johnson, Ch. Comm.
S. C., Charleston	Noon, June	10..	Wooden dump carts for garbage, six or more	J. H. Dingle, C. Eng.
N. Y., New York	11 a.m., June	10..	Telephone line, 65 miles	Bd. of Water Supply.
N. J., Jersey City	2 p.m., June	10..	Pergola, wading pool, brick pavement, etc.	W. G. Muirhead, Sec. P. Com.
Ind., Ft. Wayne	June	10..	One automobile	Co. Comrs.
N. Y., Peekskill	noon, June	10..	Jail, police quarters, court, etc.	Vil. Clk.
Cal., Los Angeles	June	20..	Bldg. & operating garbage disposal plant. Reduction or incineration	Bd. of Public Works.
La., Mandeville	7.30 p.m., June	20..	Timber sea wall	W. G. Davis, Mayor.
O., Akron	11 a.m., June	20..	Addition and alteration to jail	C. L. Bower, Co. Clk.
N. Y., New York	12.15 p.m., June	24..	Section 4 of subway	Pub. Serv. Commission.
N. Y., New York	10 a.m., July	7..	Motor trucks, one to ten	M. G. Zalinski, Q. M.

STREETS AND ROADS

Gadsden, Ala.—Ordinance to pave Walnut st., from Fifth to Twelfth, with Tarvia has been passed by Council and June 10 has been set as date for hearing objections from property owners.

Gadsden, Ala.—Paving of Walnut st. has been authorized.

Texarkana, Ark.—West Side City Council has decided to hold election for purpose of passing on \$225,000 bonds for street and bridge improvements, and \$60,000 bonds for extension to sewer system.

Chico, Cal.—Resolution has been passed by city trustees calling for bids on paving of First street.

Los Angeles, Cal.—Opening of Moneta avenue is being discussed.

Sacramento, Cal.—New surveys for state highways have been ordered as follows by advisory board of state department of engineering. San Mateo county, from Cypress Lawn cemetery to South San Francisco, two miles; Santa Clara county, from Morgan Hill to Gilroy, 7½ miles; Santa Barbara county, from Los Alamos to a point 1¼ miles north of Bicknell station, 12 miles; El Dorado county, from Shingle Springs to El Dorado City, 5 miles. Preliminary work to consider possible survey for sections of state highway from Colusa Junction to Colusa City, and from Roseville in Placer county, to Nevada City via Auburn, have been ordered. State highway between El Dorado and Placer-ville will be built along old Green valley road, according to decision of board.

San Francisco, Cal.—Extension of Market street from Hattie to 18th street is being considered.

Hartford, Conn.—Following state road work has been planned: Middlefield, about 7,322 lin. ft. of macadam; Stafford, about 5,530 lin. ft. bituminous macadam; Prospect, about 3,771 lin. ft. of grading; Old Lyme, about 5,586 lin. ft. of native stone macadam or straight macadam; Monroe, about 6,625 lin. ft. native stone macadam; Middlebury, about 2,800 lin. ft. gravel; Wallingford, about 6,650 lin. ft. of bituminous concrete, bituminous macadam, amiesite, warrenite or hassamite construction; Fairfield, about 4,272 lin. ft. of bituminous macadam or amiesite construction; Chester, about 6,759 lin. ft. of macadam; Simsbury, about 8,593 lin. ft. of macadam; Ellington, about 7,810 lin. ft. of gravel construction; Somers, about 6,100 lin. ft. of native macadam construction; Middletown, about 5,446 lin. ft. of concrete or hassamite construction.

Wilmington, Del.—Levy Court has opened bids for building of county road from Stanton to Oak Tree Corner, distance of 6-10 mile. Bids were: Juniata Paving Co., limestone, \$6,155.20; trap rock, \$6,336. Stewart & Donahue, waterbound macadam, \$5,991; asphalt top, \$8,992.20. Ed. E. Crumlish, trap rock, \$6,740.60. John A. Clark, macadam, \$5,600; limestone, \$5,180. John J. O'Neal, macadam, \$5,384.10. Thomas R. Klaringbold, macadam, \$4,995; local stone and limestone bridge, \$4,799.85. Standard Bitulithic Co., Warrenite surface, \$11,386.20, and another bid, \$10,482.20. Alfred McDowell, water bound macadam, \$5,956.21; asphalt top, \$11,511.82. The bids were referred to the committee of the whole and the county engineer.

Washington, D. C.—Number of streets in East Washington will be improved this year.

Jacksonville, Fla.—Ordinances have been passed authorizing improvements of various streets. W. S. Jordan, Mayor.

Athens, Ga.—Sum of \$75,000 will be spent this year for brick paving under direction of J. W. Barnett, City Engr.

Belvidere, Ill.—Chairman Fox of street and alley committee has recommended that South State street from Northwestern track to Logan avenue for width of the asphalt be repaved with crushed stone, surface of granite chips and asphalt filler, submitting specifications, and also West Pleasant street from State to Pearl streets.

Peoria, Ill.—Resolutions have been adopted providing for improvement of various streets.

Fort Wayne, Ind.—Resolutions have been approved for improvement of various streets. H. W. Becker, clerk.

Indianapolis, Ind.—Widening of Prospect street has been planned.

Indianapolis, Ind.—Plans for paving several streets have been completed by city engineering department and probably will be adopted by board of public works. Paving provided for in plans is as follows: West street, from Washington street to Kentucky avenue, esti-

mated cost, \$18,277; Home place, from Merrill to Norwood streets, \$5,531; Beville avenue, from 10th street to Nowland avenue, \$15,711; Rural street, from Michigan to 10th streets, \$26,493, and Maryland street, from Noble to Shelby streets, \$16,342.

Shelbyville, Ind.—Bond issue of \$80,000 highway and bridge repair bonds have been sold to Miller & Co., of Indianapolis.

South Bend, Ind.—Board of works has approved of resolutions for improvements for pavement on High and Dunham streets.

Burlington, Ia.—Resolutions have been adopted for paving of Denmark and River sts.

Council Bluffs, Ia.—City Council is considering paving 15 blocks with concrete.

Des Moines, Ia.—The East Des Moines Commercial Club, other boosters organizations and Board of Supervisors are backing movement to secure for Des Moines a paved street to east boundary line of city. They propose that North st. be paved from East 18th st. to East 33d st., thence north on 33d to Easton boulevard. Plan contemplates concrete paving 20 ft. wide.

Keokuk, Ia.—City Council has passed a resolution to pave Fifth st., from Blondeau to Orleans, with concrete paving, seven inches in thickness.

Vinton, Ia.—Bids for paving Jefferson ave. have been rejected and new bids will be advertised.

Dodge City, Kan.—Paving of Chestnut street and several blocks on First and Second avenues is being petitioned for.

Fort Scott, Kan.—Ordinance has been passed providing for construction, grading, paving, curbing and guttering of Ninth street. G. N. Sanford, city clerk.

Manhattan, Kan.—Construction of rock road from Wathewa to St. Joseph is being planned.

Baton Rouge, La.—Sum of \$90,000 has been voted for street improvements.

Shreveport, La.—Movement has been launched for creating road district for constructing permanent highways in First and Second Wards.

Boston, Mass.—Plans are under consideration at city hall for improvement, reconstruction and paving of streets on elaborate scale.

Boston, Mass.—Mayor Fitzgerald has directed Commissioner Rourke and Division Engineer Sullivan of Public Works Department to prepare plans immediately for paving with wood blocks large square known as "Five corners" at junction of Brookline and Commonwealth aves., and Beacon and Deerfield sts. in Back Bay. Estimated cost, \$75,000.

Charlotte, Mich.—Establishment of municipal cement sidewalk construction plant is under consideration.

Grand Rapids, Mich.—Bids will be received by clerk of Kent county up to 11 a. m., June 12, for \$100,000 road construction bonds. Ralph A. Mosher, county clerk.

Grand Rapids, Mich.—Recommendations have been made for various street improvements.

Hastings, Mich.—Improvements to roads within city limits are being planned.

St. Paul, Minn.—Board of Public Works has passed preliminary order for paving of portion of Prior ave.

St. Paul, Minn.—Paving of Minnehaha st. is being planned. Estimated cost, \$44,176.

St. Paul, Minn.—Construction of lake to river highway between Milwaukee and St. Paul is being planned.

St. Joseph, Mo.—Board has ordered ordinance prepared for resurfacing with asphalt Eighth st., from Sylvania to Messanie.

Camden, N. J.—Improvement of Had-don avenue is being planned.

Elizabeth, N. J.—Following are bids received for paving of Morris ave.: East section—Weldon Contracting Co., amiesite, 300 lbs., \$29,102.24; 225 lbs., \$26,711.17; warrenite, \$34,319.12; Humphrey-Bently Co., 300 lbs. amiesite, \$28,471.44; 225 lbs. amiesite, \$24,193.52; Conover-McIntosh Co., 350 lbs. amiesite, \$31,452.73; 300 lbs. same material, \$28,192.18; 250 lbs. same, \$26,018.48; Standard Bitulithic Co., warrenite pavement, \$28,649.38; C. H. Winans Co., 225 lbs. amiesite, \$23,521.16; 300 lbs., \$27,651.19; 260 lbs. warrenite, \$32,215.96; Newton Paving Co., warrenite, 225 lbs., \$23,475.31; 300 lbs. same material, \$28,257.45. West section—Humphrey-Bently Co., amiesite, 300 lbs., \$9,946.91; same material, 225 lbs., \$8,622.27; Newton Paving Co., warrenite, 300 lbs., \$10,810.46; 225 lbs., same material, \$8,989.08; Standard Bitulithic

Co., 300 lbs. amiesite, \$10,690.08; Weldon Contracting Co., 300 lbs. amiesite, \$10,590.23; 300 lbs. warrenite, \$12,908.35; Winans Contracting Co., 225 lbs. amiesite, \$8,584.65; 300 lbs., same material, \$10,157.66; 260 lbs. warrenite, \$12,310.20.

Hoboken, N. J.—Common Council has voted to pave Willow ave., Clinton, Grand, Monroe, Jefferson and Jackson sts.

South Orange, N. J.—Ordinances have been adopted for construction of various sidewalks.

Trenton, N. J.—Specifications have been prepared for paving of 12 more streets and for grading of Ellsworth avenue.

Trenton, N. J.—Ordinance has been adopted for paving of Grand st., from Cass st. to Liberty st. Frank Thompson is City Clerk.

Albany, N. Y.—Delegations from Orange county are urging construction of two connecting links on highway map of that county. One delegation asked to have connecting link built between County Roads Nos. 65 and 43, a distance of 8,590 ft., through village of Montgomery.

Malone, N. Y.—Governor has approved of bill authorizing Franklin county to issue \$100,000 bonds for highway improvements.

North Tonawanda, N. Y.—Repaving of Webster and Goundey streets and improvement of various other streets will probably be authorized.

North Tonawanda, N. Y.—According to plans now under consideration by city officials of Tonawanda and North Tonawanda about \$300,000 will be expended in two cities this summer in improvements of streets. In Tonawanda state will improve river road with brick from west city line to Seymour st., distance of over a mile, and will pave Elliott creek road from Young st. south to city line. City will pave with dollar-way Morgan st., from Young st. west to Kohler st. and Clinton st., from Hill st. north to Adam st. In North Tonawanda state and city will improve Oliver st. with brick to width of 34 ft. from Wheatfield st. north to city line and Schenk st. to same width from Payne ave. east to Division st. Division st. and Erie ave. are to be improved by state, distance of 4 miles, with brick 16 ft. wide. City will repave Webster st. and Goundry st. and will pave Main st., from Tremont st. south to Sweeney. It is estimated that North Tonawanda's improvements will reach \$175,000.

Poughkeepsie, N. Y.—Chamber of Commerce of Rhinebeck has decided to reject bids submitted for resurfacing Rhinebeck-Rhinecliff road.

Sag Harbor, L. I., N. Y.—Residents on Oakland ave. have petitioned Village Trustees to grade roadbed and spread Peekskill gravel.

Saranac Lake, N. Y.—Election will probably be held for voting on \$2,900 for construction of a road from Terrace st. to Broadway.

Schenectady, N. Y.—Paving of 18 streets have been authorized.

Schenectady, N. Y.—Widening of Clinton street is being discussed.

Utica, N. Y.—Resurfacing of large number of streets has been ordered.

White Plains, N. Y.—Macadamizing of Stewart place has been petitioned for.

St. Mary's, O.—City council has passed resolutions for paving of three squares of Main street, three squares of Indiana avenue, one square of Ash and one square of Clinton streets.

Wilson, N. C.—Various street improvements have been planned.

Youngstown, O.—Resolution has been passed to pave Kenwood Court, from Elm st. to East line of City Lot No. 16, 070. M. F. Hyland is clerk.

Harrisburg, Pa.—Ordinances have been passed authorizing paving and curbing of Logan st. and Orange alley. Charles A. Miller is clerk of Common Council.

Meadville, Pa.—Ordinance has been passed authorizing bond issue of \$60,000 for paving of street intersections and construction of storm sewers.

Sioux Falls, S. D.—Resolutions have been adopted for grading and improving 14th street. W. C. Leye, city auditor.

Corpus Christi, Tex.—Plans are under consideration providing for paving of upper and lower North Broadway, for building of concrete balustrades at top of bluff and for terracing of bluff. It is estimated that \$100,000 would be required to do the work.

Dallas, Tex.—Paving of Browder street and 12th street have been petitioned for.

Denton, Tex.—Sanger precinct is preparing to vote on road bond issue of \$125,000. This will make fourth justice

precinct in county to vote on bonds in near future or with bonds already issued.

Tyler, Tex.—Bond issue of \$300,000 for good roads will be voted for between now and July 8.

Ogden, Utah.—City engineer has been authorized to advertise for bids for paving of Jefferson avenue between 25th and 27th streets, Wall avenue, between 21st and 23d streets, and Lincoln avenue, between 25th and 26th streets.

Salt Lake City, Utah.—A municipal street repairing plant will shortly be provided for.

Salt Lake City, Utah.—After conference between State Road Commission and Rich County Commissioners, it is decided that Rich county will have about \$12,000 for roads this year, money to be applied on road from Wyoming line to Randolph and thence from Randolph to Laketown.

Franklin, Va.—Campaign is being considered for paying of principal streets.

Norton, Va.—Board of supervisors has formally closed up negotiations for new road bonds which were voted in Gladeville and Richmond magisterial districts some time ago to amount of \$260,000. Order has been entered inviting bids for proposed work and directing that bids be properly advertised. Each of magisterial districts will receive \$130,000 of the money.

Richmond, Va.—The Administrative Board has directed City Engineer to advertise for bids for granolithic curb and gutter on southern side of Franklin st., extended, from Monument ave. to West st., and for granite curb and gutter on north and south sides of Nicholson st., from Erin to Marshall st.

Staunton, Va.—County supervisors at Staunton, Va., sold \$50,000 of road bonds to National Valley Bank of Staunton for \$1.01½.

Seattle, Wash.—Resolutions have been adopted for various street improvements.

De Pere, Wis.—Petition to pave Broadway has been presented.

CONTRACTS AWARDED.

Montgomery, Ala.—For grading and graveling 6 miles of Ramer-Grady road, to J. P. Giddens, Kent, Ala. Thos. H. Edwards is county engineer.

Lonoke, Ark.—To Lonoke County Commissioners to Big Rock Stone & Construction Co., contract for 200,000 cu. yds. of rock, to be used in construction of macadam roads in four districts of county.

Colton, Cal.—By city, to Paonessa Construction Co., Story Bldg., Los Angeles, contract for paving 8th street, as follows: 108,420 sq. ft. asphalt, 15.5 cts.; 162,350 sq. ft. oiled macadam, 7½ cts.; 20,400 sq. ft. cement concrete gutters, 15 cts.; 3,640 sq. ft. cement concrete entrances, 14 cts.; 560 sq. ft. oiled macadam entrances, 8 cts.; 815 lin. ft. 30x3 in. 12 gauge corrugated iron culverts, \$1.25; 150 lin. ft. 30x6 in. 12 gauge corrugated iron culverts, \$1.25; 196 lin. ft. reinforced concrete culverts, \$1.80; total, \$34,561. Totals of other bids: Fairchilds, Gilmore, Wilton Co., Los Angeles \$38,362; Highway Construction Co., Redlands, \$40,047; W. D. Bahan, San Bernardino, \$38,791; Los Angeles Paving Co., Los Angeles, \$38,418; Johnson, Shea Co., Riverside, \$44,790.

Sacramento, Cal.—Contract for about 11¼ miles of road in Los Angeles county from Calabasas to western boundary has been awarded to Gillette, Montgomery & Tracy for \$101,997. In Santa Clara county, contract for one mile of concrete bituminous construction has been awarded to John Doyle of San Jose for \$7,887. Lee C. Garnsey has been awarded contract for eight miles of road in Ventura county for \$51,869.

Sacramento, Cal.—For constructing a state highway in Ventura county, Division 7, Route 2, Section A, to Leigh Garnsey, of Los Angeles, at the following bid: 22,020 cu. yds. excavation at \$0.685; 234 lin. ft. corrugated iron pipe, 12-inch, at \$1.40; 88 lin. ft. corrugated iron pipe, 18-inch, at \$1.75; 112 lin. ft. corrugated iron pipe, 24-inch, at \$2.00; 45 cu. yds. cement concrete culverts, Class "A," at \$10.00; 36 cu. yds. cement concrete culverts and monuments, Class "B," at \$9.00; 7,180 cu. yds. cement concrete paving, Class "B," at \$4.26; 770 bbls. asphaltic oil hauled and placed at \$2.00; 555 tons broken stone screenings at \$2.50; 370 cu. yds. sand at \$1.81; 2,744 lin. ft. guard rail at \$0.31; 136 monuments, hauling and setting, at \$2.00. Other bidders were: Bent & Pennybaker, Los Angeles; W. W. Atkinson, Los Angeles; John D. Marsh, Los Angeles; Harry C. Mayer, Venice; Rogers Bros. Co., Los Angeles; Gillette, Mont-

gomery & Tracy, Los Angeles; California Road & Street Impt Co., of Fresno.

Sacramento, Cal.—For constructing a state highway in Los Angeles County, Division 7, Route 2, Section C, of Gillette, Montgomery & Tracy, of Los Angeles, at following bid: 62,740 cu. yds. excavation, at 50 cts.; 362 lin. ft. corrugated iron pipe, 12-inch, at \$1.00; 599 lin. ft. corrugated iron pipe, 18-inch, at \$1.50; 665 lin. ft. corrugated pipe, 24-inch, at \$2.00; 251 lin. ft. corrugated iron pipe, 30-inch, at \$2.75; 236 cu. yds. cement concrete culverts, Class "A," at \$11.50; 178 cu. yds. cement concrete culverts and monuments, Class "B," at \$9.00; 11,030 cu. yds. cement concrete paving, Class "B," at \$4.80; 1,180 bbls. asphaltic oil, heated and placed at \$1.25; 850 tons of broken stone screenings at \$3.00; 680 cu. yds. sand at \$1.25; 12,680 lin. ft. of guard rail at 40 cts.; 280 monuments, hauling and setting at 50 cts. Other bidders were: Bent & Pennybaker, Los Angeles; W. W. Atkinson, Los Angeles; F. F. Prendergast, Los Angeles; John D. Marsh, Los Angeles; Rogers Bros. Co., Los Angeles; Harry C. Mayer, Venice, and Leigh Garnsey, of Los Angeles.

Sacramento, Cal.—For constructing a state highway in Santa Clara county, Division 4, Route 2, Section A, to John Doyle, San Jose, at following bid: 3,000 cu. yds. excavation at 50 cts.; 1,500 yds. cement concrete, Class "B," at \$2.70; 1,190 tons of broken stone at 69 cts.; 115 tons broken stone screenings at 75 cts.; 95 cu. yds. sand at \$1.00; 160 bbls. of asphaltic oil at \$1.25; 3,000 lin. ft. guard rail at 35 cts.; 15 monuments at \$1.00. Other bidder was A. Teichert & Son, Sacramento.

Denver, Colo.—To Beach & Decker Contracting Co., contract by Board of Public Works for improvement of Williams st. parkway, at about \$33,000. Parkway will be surfaced with macadam and bordered with trees, extending from Cheesman Park, south to Third ave., west to Downing st., and south again to the Downing st. bridge.

Hartford, Conn.—To Edward Balf Co. contract by Board of Contract & Supply for construction of sheet asphalt pavement on Front, Morgan, Pleasant and Marsh court, for \$23,111, and on Farmington ave., from Asylum ave. to Woodland st., for \$21,815. F. W. & W. H. O'Neil secured the contract to construct block pavement on Church and Spruce sts., for \$7,562.

Coventry, Conn.—To Ahern Construction Co., of Willimantic, Conn., contract by Connecticut State Highway Commission, for macadamizing of 8,027 lin. ft. of road in town of Coventry on Manchester-Willimantic turnpike, for \$2.05 per lin. ft.

Wilmington, Del.—Levy Court has awarded contract for building half a mile of road near workhouse to trustees of New Castle county workhouse, and convict labor will be employed on the work. Contract price will be \$2,497. Thomas Claringbold has been awarded contract for building piece of road from Stanton to Oak Tree corner at \$4,995.

St. Augustine, Fla.—City Council has instructed that streets and lanes committee enter into contract with Seth Perkins, Jr., of St. Augustine, for paving with asphalt macadam of Carrera st., from Cordova to Malaga, at \$1.276 per yard.

Du Quoin, Ill.—To Reeb Bros., of Belleville, Ill., contract by Board of Local Improvements for construction of 40,460 sq. yds. of brick paving for \$77,495.

Goodenow, Ill.—By highway commissioners, contract for building 8 miles of stone road to the West Side Quarry Co., Kankakee, at \$37,500.

Newport, Ind.—For brick pavement and concrete curb, etc., to Geo. R. Chapman, of Clinton, for \$23,800.

Anamosa, Ia.—To Dolanway Paving Co. of Marshalltown, for 7,500 sq. yds. Dolanway pavement.

Iowa Falls, Ia.—By city, contract for paving to Kaw Paving Co., of Topeka, Kan. This company bid for 20,129 sq. yds. concrete pavement, \$1.25 per sq. yd. and 10,800 lin. ft. curb 32 cts. per lin. ft.

McPherson, Kan.—To J. R. Ramsey, of Topeka, Kan., contract by City Council of McPherson, for paving of North Main st., from Santa Fe Depot and section line, four blocks, at \$1.24 per sq. yd., for 4-in. concrete base and a 2-in. concrete top.

Baltimore, Md.—By board of awards, contracts for paving as follows: To the J. H. Cranford Construction Co. of Baltimore, for Contracts 112, 113, 114 and 116, and to P. Flanagan & Sons, Lexington and Calvert streets, for Contract

108, bituminous concrete, total amount of contracts said to be \$169,000.

Grand Rapids, Mich.—By City Council contract for paving of street from Lafayette ave. to Eastern ave., with asphalt macadam, to Carpenter & Anderson of that city for \$32,865.

Jefferson City, Mo.—To Joseph Pope, 222 W. Dunklin St., contract for improvement of Chestnut st., from High to Atchison, and Adams from Dunklin to Elm sts., for \$24,500.

Fulton, N. Y.—Board of public works has awarded sewer contract for improvement of Oneida street to W. J. Hartnett.

Akron, O.—For paving of East Market street with Medina stone and creosote block, by board of control, to Wildes & Davidson and E. McShaffrey & Son. Section No. 1, which extends from High street to Union depot will be paved with Medina stone. Contractors' bid for this work was \$73,721.78. Section No. 2, from Union depot east, will be paved with creosote block, at cost of \$97,577.30. Block will be 3½-in., No. 16.

Sunbury, O.—To Lambert Bros. & Wiel of Delaware, for paving of 8 streets, at \$23,000. Total, 10,600 sq. yds.

Durant, Okla.—By city, for 12 blocks of asphaltic concrete paving to Levy & Levy of Muskogee, Okla. Total cost estimated to be \$42,000. Bermudez or Trinidad asphalt will be used. W. P. Danford, city engineer.

Portland, Ore.—By City Council, contracts for street improvements as follows: Vistaria and other streets, to the Warren Construction Co. for gravel bitulithic paving, \$44,157; East 57th st., from Sandy blvd. to Tremont, Warren Construction Co. for gravel bitulithic, \$12,649; Millers ave., from East Seventh to East 16th sts., to the Linden, Kibbe Construction Co., for concrete, \$15,619; East 37th st., from Hancock to Rossmere, to the Oregon Independent Paving Co., for concrete, \$8,418; East Lincoln and other streets, to the Pacific Bridge Co., for bitulithic redress \$61,903.

Silverton, Ore.—Contracts have been awarded to Clark & Henery Construction Co. for improvement, with hard surface pavement, of Lewis street from Water to Second, Park street from Water to Second and Second street from Main to Jersey.

Erie, Pa.—By city for paving of intersection of Fifth and East ave., to John McCormick & Sons, at \$1.70 per yd. for asphalt.

Wilkes Barre, Pa.—Contract for paving Grover and Folsom lanes has been awarded to John E. James. They are to be paved with brick at cost of \$2.22 a sq. yd. Warner-Quinlan Co. has been awarded contract for paving Bertels lane with asphalt to cost \$2.12 a sq. yd. Contract for drain on Folsom and Grover lanes has been awarded to R. M. Cranston, Jr., whose bid was \$991. Bid of Davis & Parry was \$1,021.

Providence, R. I.—By State Board of Public Roads, following road contracts: A. D. Bridge's Sons, Inc., Hazardville, Conn., surface treatment with asphaltic oils section in the town of Warwick, 30,000 ft. in length, \$2,236; Walter Cressy, Gloucester, Mass., a section in the town of South Kingstown, 25,000 ft. in length, \$1,723; a section in the town of East Providence, 5,000 ft. in length, \$402; a section in the towns of Middletown and Portsmouth, 11,000 ft. in length, \$814; a section in the town of Tiverton, 6,461 ft. in length, \$542. A. D. Bridge's Sons, Inc., a section in the town of Bristol, 2,300 ft. in length, \$4,193; Oscar Rackle, Providence, a section in the town of Tiverton, \$6,380, and a section in the town of Warren, \$3,606.

Longview, Tex.—For 17 miles of paving and macadam by city council, to Roach & Manigan Co. of Ft. Worth, Tex.

Salt Lake City, Utah.—To P. J. Moran, for sidewalk extension No. 159 at \$80,005.06.

Tacoma, Wash.—Contracts for paving North L. st. and South Yakima ave. has been awarded by Commissioner of Public Works Owen Woods to George P. Wright, who was lowest bidder on both jobs.

Superior, Wis.—Contracts for construction of cement sidewalks in First, Seventh and Tenth wards have been awarded. E. Hawarden was awarded contract for construction of 4-ft. and 8-ft. walks in the First ward, his bids being 49 cts. and 95 cts. per lin. ft. respectively. Ed Johnson was awarded contract for 5-ft. walks in First ward on his bid of 61 cts. Berg & Runstean were awarded contract for 6-ft. walks in the Seventh ward on their bid of 64½ cts. per ft. The Russell Construction Co.

was given contract for 4-ft. walk to be laid in Tenth ward, they bidding 55 cts. per ft. Ed Johnson was given contract for 5 and 8-ft. walks in this ward at 64 cts. and \$1.03 respectively. Additional contracts for cement sidewalks were also awarded by Board of Public Works. Berg & Runstan contract for 6-ft. walk on the west side of Baxter ave., from Belknap to Harrison st. The price is 61 cts. per lin. ft. In the Ninth ward, Ed Johnson was awarded contract for construction of 5-ft. walks at 62 cts. per ft., and Peterson & Holm were given the contract for 6-ft. walks at 71½ cts. per ft.

SEWERAGE

Texarkana, Ark.—West Side City Council has decided to hold election for purpose of passing on \$60,000 bonds for extension of sewer system.

Reedley, Cal.—Plans are being prepared for sewer system.

Canton, Ill.—Ordinance has been presented providing for issuing of bonds to amount of \$15,000 for purpose of bonding an indebtedness incurred for improvement of sewer system of city of Canton and for extension of same, proposition to be approved by majority of legal voters.

Geneva, Ind.—Town council has adopted preliminary resolution for construction of district sewer.

Council Bluffs, Ia.—Establishment of west end sewer system is being planned.

Odebolt, Ia.—E. E. Carlson, of Battle Creek, Ia., is preparing plans for 3.1 miles of sewers, with septic tank and filter beds, to cost \$17,100.

Fort Scott, Kan.—Resolution has been adopted for construction of sewers in East Side Sewer District No. 1.

Baton Rouge, La.—Sum of \$38,000 has been voted for extension of sewerage.

New Iberia, La.—Sewerage commission is considering plans for sewerage system; estimated cost \$75,000.

Bangor, Me.—Extension of sewer facilities on Union street has been ordered. More than 900 ft. of sewer will be required.

Baltimore, Md.—All bids for Sanitary Contract No. 116 have been rejected on ground that they were excessive.

Grand Rapids, Mich.—By decision rendered by State Supreme Court at Lansing, city of Grand Rapids is enjoined from dumping sewage into Grand river. To obey ruling of court city will have to reconstruct all sewer outlets and large part of system of 192 miles of sewers. In addition land must be purchased and two immense septic tanks built on each side of river. Estimated cost of change is \$7,000,000.

St. Paul, Minn.—A new Jefferson Hamline sewer fund is planned. This would be \$125,000. Ocean sewer would get \$71,000, Griffith \$17,000, Robie \$15,000, St. Clair-Cretin, \$31,000 and Maryland \$5,000.

Elizabeth, N. J.—Sum of \$45,000 is needed for extra sewer repairs.

Hammonton, N. J.—The Hammonton Sewer Commissioners have purchased part of Drake property at lower end of Hammonton Lake for filtration bed and disposal plant.

Mililtoyn, N. J.—Plans for sewerage and sewage disposal have been prepared and are being considered by Board of Health.

Trenton, N. J.—Ordinance has been passed to authorize construction of sewer No. 580 in Cromwell alley.

Trenton, N. J.—Ordinances have been adopted authorizing construction of Sewer No. 457 in Division st. and Sewer No. 556 in Commonwealth ave., Morris ave., etc. Frank Thompson is City Clerk.

Brooklyn, N. Y.—Board of Estimate has authorized public improvements in Brooklyn and Queens to the aggregate amount of \$572,400, of which \$268,000 is for Brooklyn and \$244,400 for Queens. Leading project in Brooklyn is sanitary and storm water sewers on Coney Island, in Surf ave., from West 19th st. to West 27th st., and in West 20th st., from Surf ave. to Mermaid ave.; in West 23d st., from Surf ave. to point in Atlantic Ocean, about 1,000 ft. south of Surf ave., to cost \$65,000.

Saranac Lake, N. Y.—Project for new sewer which will give every camp on east shore of Lake Placid service, is being considered by Board of Lake Placid Trustees.

Waterloo, N. Y.—Village Trustees have accepted bid of Harris, Forbes & Co., of New York, of \$100,992 for the \$100,000 issue of sanitary sewer bonds. Completion of sewer system is assured and work will be started as soon as contract can be awarded.

Salem, O.—Bids will be received until 12 noon, June 26, for purchase of bonds in sum of \$25,000 for purpose of constructing intercepting sanitary sewers. Geo. Holmes, auditor.

Toledo, O.—Ordinance has been passed determining to proceed with construction of local sewer number 175 in Scmerset st., in the alley north of Dana st., and in alley west of Somerset st. John M. Babcock is clerk.

Toledo, O.—Reconstruction of city's sewage treatment plant between South st. and Swan Creek, at approximate cost of \$12,000, will probably be first improvement undertaken by joint action of City Council and County Commissioners under provisions of Colter law.

Enid, Okla.—City is contemplating some sewer work.

Meadville, Pa.—Ordinance has been passed authorizing bond issue of \$60,000 for construction of storm sewers and paving of street intersections.

Cleveland, Tenn.—Board of Mayor and Aldermen is said to be considering bond issue of \$75,000 for completing sewer system.

Dallas, Tex.—City secretary has been instructed to advertise for bids for 6-in. sanitary sewer to be laid across Beacon street near East Side avenue.

Hillshoro, Tex.—Resolution has been adopted submitting to people question of issuing \$25,000 additional sewerage and waterworks bonds.

Temple, Tex.—Recent bond issue of \$75,000 recently voted by people of this city for purchase and extension of plant of Temple Sanitary Sewer Co has received approval of the Attorney General's Department at Austin and bonds will be sold June 10.

Garfield, Wash.—Bonds in sum of \$15,000 have been voted for construction of septic tank and sewer system.

CONTRACTS AWARDED.

San Diego, Cal.—To California Glazed Cement Pipe Co., of San Diego, contract for about 5 miles of sewer pipe, at \$14,741.

San Bernardino, Cal.—By city, contracts for sewers as follows: To M. N. Pekich, for I street outfall, \$9,878; to Highway Construction Co., for 12-in. sewers on Kingman street, \$5,045, and to Myer & Kerr, for sewers on L street and other streets, \$4,610.

Hartford, Conn.—To C. H. Slocomb & Co., contract by Board of Contract & Supply for construction of sewer in Terry road, for \$19,827, and for sewer in Broadview terrace, for \$2,875.

Knox, Ind.—For construction of sewers at Knox, to Veito Graziano, as follows: Pipe sewers, 1,410 ft. 20-in., \$2; 660 ft. 18-in., \$1.75; 1,010 ft. 5-in., \$1.50; 2,400 ft. 12-in., \$1; 16,170 ft. 8-in., 50 and 35 cts.; 57 manholes, each, \$25; etc., total, \$18,220. Engineer, R. C. Yeoman, of Valparaiso.

Waterloo, Ia.—By city council, for sewers in Lafayette and other streets, to Blackhawk Construction Co., for \$6,761.

Burlington, Kan.—To Tonkawa Construction Co. of Tonkawa, Okla., for 6 miles of sewers, and disposal plant, at \$26,000. Engineer is Alva J. Smith of Emporia.

Ruston, La.—For constructing sewers, to Isaac C. Mishler, of Chattanooga, Tenn., at \$25,748, and for sewer pipe etc., to Texarkana Pipe Co., of Texarkana, Tex., at \$10,916.

Baltimore, Md.—At recommendation of Sewerage Commission, Sanitary Sewerage Contract No. 114 was awarded to C. Bevan Clark & Co. at their bid of \$100,162.40, and Sanitary Contract No. 115 to Carozza, Levezza & Carozza at \$23,870.30.

Hermann, Mo.—To Tonkawa Construction Co., Tonkawa, Okla., for constructing 3 miles of lateral sewers, at \$11,400 from plans of Burns & McDonnell, of Kansas City.

St. Joseph, Mo.—Contract has been awarded to E. F. Mignery for sewer in district No. 104.

Billings, Mont.—Contract for construction of 20-in. drain along county road between Billings and Laurel has been awarded to Hugh McDonald, by County Commissioners. Drain is to be wooden box, and is to be about 1,600 ft., running east and west near south line of section 9, township 1 south, range 25 east. Price is to be 93 cts. per ft.

Omaha, Neb.—To Offerman Construction Co. contract by City Council of Omaha for storm water sewer to be constructed between 28th ave. and Chicago st. and 31st and Farnam sts., for \$15,481.

Minot, N. D.—To George W. Kemper, of Minot, contract for construction of one mile of storm sewer, for \$16,800.

Marysville, O.—By council, contract for sanitary sewerage system to William Graham of Columbus at \$59,932.86. Contract for disposal plant has been awarded to Frank Mulligan of Bellefontaine & William Epps, Marysville, at \$42,054.40.

Caddo, Okla.—To J. S. Terry Construction Co., Poteau, Okla., contract by Board of Trustees for installation of sewerage system for \$28,017. Work includes 22,000 ft. of 6-in., 5,800 ft. of 8-in., 3,100 ft. of 10-in., 1,250 ft. of 12-in., 2,200 ft. of 15-in., 500 ft. of 24-in., and 800 ft. of 30-in.; one septic tank and contact beds.

Salt Lake City, Utah.—To Gilkerson Construction Co. of Salt Lake City, contract for constructing Sewer Extension No. 315, at \$5,114.

Sumner, Wash.—For constructing trunk sewer in Local District No. 8 to Washington Paving Co., Savage-Scotfield Bldg., Tacoma, at \$11,053.

Boscobel, Wis.—To C. H. Phillips, of Madison, contract for constructing sewers as follows: 10,526 ft. 8-in., 85 cts.; 2,970 ft. 10-in., 92 cts.; 2,110 ft. 12-in., \$1.28; manholes, \$35; flush tanks, \$55; tank, \$1,250; total, \$15,219.

Evansville, Wis.—For constructing storm and sanitary sewers to C. E. Hughes, of Rockford, Ill., at \$8,000. F. W. Gillman is city clerk.

Wausau, Wis.—For 1,750 ft. reinforced concrete sewer to John Anderson & Son, of Wausau, at \$7.75 per ft.; manholes, each, \$25; catch basins, each \$35; outlet, \$275, and inlet, \$175. B. C. Gower is city engineer.

WATER SUPPLY

Watts, Cal.—At mass meeting of citizens to consider proposition of voting bonds in sum of \$85,000 for municipal water plant and \$15,000 for electrical fire alarm system and chemical engine, a secret ballot was taken, showing 79 in favor and 11 against proposition.

Denver, Colo.—City has been authorized to purchase existing waterworks plant of Denver Union Water Company.

Canton, Ill.—Fire and water committee will advertise for bids for new boiler for Avenue D pumping station.

Carlyle, Ill.—City Council is considering construction of filtration system. F. A. Lietze is City Engr.

Indianapolis, Ind.—Order has been given by board of public works to Indianapolis Water Co. to lay water mains in large number of streets.

Hedrick, Ia.—Citizens have voted in favor of construction of municipal waterworks.

Jackson, Minn.—Bids will be received in a few weeks for construction of concrete dam to cost about \$20,000. Engineer is L. W. Wolff of St. Paul.

St. Paul, Minn.—Bonds in sum of \$150,000 have been approved by water board. money will care for new main for low service, \$110,000; repairs to the present main, \$30,000; plans for other improvements, \$10,000, and current improvements, \$100,000, the last coming from the old authorization.

Warroad, Minn.—At special election citizens have decided to issue village bonds in sum of \$30,000 for waterworks and electric lighting plant.

Richton, Miss.—Board of mayor and aldermen has called election for June 10 on \$10,000 bond issue for waterworks.

Atkinson, Neb.—Question of municipal waterworks plant is said to be under consideration.

Columbus, Neb.—Citizens have authorized \$10,000 in bonds for construction of waterworks.

Irvington, N. J.—Question of municipal water plant is being discussed.

Fishkill Landing, N. Y.—Village is now asking for bids for laying of 800 ft. of 6-in. water mains on West Center street and 450 ft. of similar pipes on Wiltzie avenue.

La Salle, N. Y.—Bonds in sum of \$15,000 will be sold on June 5 for extension of village waterworks system.

Lockport, N. Y.—Common council has rejected bids for building of proposed big force mains leading from standpipe to northerly and easterly portions of the city, as recommended by water board for better fire protection to milling districts. Bids totaled about \$50,000.

Oneida, N. Y.—Purchase of triple motor-driven pump and engine, to cost \$8,000, is to be voted on; also for expenditure of \$7,000 for other equipment.

Raleigh, N. C.—City of Raleigh has sold its issue of \$350,000 water works bonds to Myer, Deppe & Co., of Cincinnati.

Alliance, Ol.—Chester & Fleming, hydraulic engineers of Pittsburgh, Pa., have prepared plans for large storage reservoir for impounding water for city waterworks. Work is to be done by J. C. Divine, general contractor of Alliance. Chester & Fleming will have supervision of work.

Bucyrus, O.—Citizens have voted in favor of \$180,000 bonds to construct municipal waterworks.

Piqua, O.—City will issue bonds in sum of \$80,000 for water works improvements.

Farrell, Pa.—Ordinance has been passed for issuing \$125,000 in bonds for erection of municipal water plant.

Pittsburgh, Pa.—At special meeting of Homestead council motion was adopted authorizing expenditure of \$23,000 to improve borough water plant. Borough is now supplied with water from artesian wells.

Dresden, Tenn.—Henry A. Mentz, of Memphis, will prepare plans for waterworks. Probable cost, \$15,000.

Garrison, Tex.—Water works system will be installed.

Jourdanton, Tex.—There is a movement on foot to have city buy present water system, and it is probable that in the near future election will be ordered for bond issue for that purpose.

Payson City, Utah.—About \$20,000 worth of water works bonds have been sold.

Clarksburg, W. Va.—City filtration plant will be enlarged at cost of \$40,000.

Coquitlam, B. C.—Election will shortly be held to vote \$100,000 bonds for improvement of city waterworks.

CONTRACTS AWARDED.

Tulare, Cal.—To C. D. Vincent of Oakland and Fullerton, Cal., at \$37,647.70 for construction of municipal waterworks system and to Des Moines Bridge & Iron Works for constructing steel tank and tower for system.

Gunnison, Colo.—To Saylor Construction Co., of Lamar, contract for completion of Seledge extension of Gunnison irrigation project, at about \$100,000.

Evanston, Ill.—To Norwood Engineering Co., of Florence, Mass., for installation of filter plant, at \$186,494.

Cumberland, Md.—To Thos. T. Kean Co., of Cumberland, contract for water mains in Altomont Terrace, from S. Centre street and S. Mechanic street, at \$16,500.

Deerwood, Minn.—For installation of water works system, to Oscar Claussen Engineering Co., of St. Paul.

Jefferson City, Mo.—Contract for new verticle triple-expansion pumping engine for waterworks has been awarded to Epping-Carpenter Company. The work is in charge of Chester & Fleming, hydraulic engineers, of Pittsburgh, Pa.

Ord, Neb.—To Thomson Meter Co., Brooklyn, N. Y., for furnishing this city with meters.

Raleigh, N. C.—To Standard Wood Pipe Co., Williamsport, Pa., contract for 5,000 ft. of 18-in. wood water pipe, at \$4,500.

Springfield, O.—By Board of Control for new engine at water works station to Laidlaw, Dun, Gordon Co., of Cincinnati, at \$5,495.

Hinton, Okla.—For construction of waterworks and electric lighting system in Hinton, to Don A. Tolbert of Ada, Okla., for \$25,917. The Benham Engineering Co., American Nat. Bank Bldg., Oklahoma City, Okla., is Engineer.

Newport, Ore.—For constructing a 1,000,000-gallon reservoir for city water system, to Payne & Reed, of Portland.

Pittsburgh, Pa.—By department of public works, contracts for 1,000-horsepower boilers for installation in power plant of Brilliant pumping station, to Babcock & Wilcox Company. Murphy stokers will be used.

Columbia, S. C.—For water supplies as follows: For 97 tons cast-iron pipe and 4,420 lbs. specials, to the Lynchburgh Foundry Co., Lynchburgh, Va., at \$23.10 per ton for pipe and 2½ cts. per lb. for specials; 4 tons of lead, E. M. Lemmond, Columbia, S. C., at 5 cts. per lb.; Pratt & Cady Co., Baltimore, Md., ten 6-in. gate valves at \$7.85 each; one 8-in., at \$12.85, and one 12-in., at \$31.50; also 12 valve boxes at \$2.30 each; 4 fire hydrants, Columbia Iron Works, Chattanooga, Tenn., at \$23 each.

Everett, Wash.—To Paraffine Paint Co., Polson Bldg., Seattle, contract for waterproofing city water reservoir, at about \$20,000.

Seattle, Wash.—For water mains as follows: Sixth avenue, S., to S. Ryan, at \$11,064, and 11th avenue, W., to Elliott Construction Co., \$31,403.

Tacoma, Wash.—To N. A. Jones Construction Co., California Bldg, contract for laying of water mains, for \$8,000.

Turtle Lake, Wis.—For constructing waterworks as follows: To W. D. Lovell of Minneapolis, Minn., for 5,252 ft. 6 and 4-in. pipe, with valves, hydrants and a 36,000-gallon steel tank and tower; to Hanigan & Scheel, of Turtle Lake, for the pump and engine, and to Jensen & Gaffney, of Turtle Lake, for pump house.

Winnipeg, Can.—To Willoughby & Kelso, Main st., Winnipeg, contract by Board of Control of Winnipeg for construction of conduit runs on Portage ave., from Colony to Maryland st., for \$13,881.

LIGHTING AND POWER

Jackson, Cal.—Plans are being considered for installation of street lighting system by city.

Washington, D. C.—Improvements will be made to lighting system of Pennsylvania avenue.

Paris, Ill.—Installation of ornamental street lighting system, to include erection of 120 lamp standards, carrying 5-lamp clusters (the upper lamp 60-kw. and the lower 40 watt), to be maintained by underground wires, is being considered. Cost of system estimated at \$12,000. Archie E. Wood of Paris is Chairman Lighting Committee.

Des Moines, Ia.—Eighty-eight lights of 40 watt strength will be established on 7th street viaduct, according to resolution passed by city council.

Lynnville, Ia.—Question of electric light system is said to be considered by city.

Manly, Ia.—The People's Gas & Electric Co. of Mason City has asked citizens for franchise to extend their system to that city.

Mediapolis, Ia.—At special election a lighting franchise was granted to Mediapolis Lighting Co.

Syracuse, N. Y.—Improvements costing \$100,000, and insuring maximum electric lighting and power service at all times, even in event of temporary failure of Niagara current, are to be made this summer at Fulton st. station of Syracuse Lighting Co.

Corpus Christi, Tex.—Improvements to lighting system is under consideration.

Galveston, Tex.—The plans for illumination, ornamentation and beautification of Broadway have been perfected.

Puyallup, Wash.—New plan to utilize Salmon springs, source of Puyallup water system, as site for location of hydro-electric power plant to supply city of Puyallup with light for both street and house purposes, and to furnish power for city to pump water from Maplewood springs, has been advanced by Councilman John Davis and will be presented to council for its approval at next meeting.

Green Bay, Wis.—Improvement of street lighting system is planned.

Sheboygan, Wis.—City council has passed resolution to request railroad commission of Wisconsin to decide whether or not there are grounds to permit city of Sheboygan to establish municipal street lighting plant.

CONTRACT AWARDED.

Conway, Ark.—For new machinery for municipal electric light plant to Allis-Chalmers Co. of Milwaukee, Wis. Cost about \$10,000.

FIRE EQUIPMENT

Gadsden, Ala.—Purchase of second automobile fire truck is being discussed.

Waterbury, Conn.—Sale of \$75,000 worth of fire apparatus bonds will probably be authorized.

Paris, Ky.—Purchase of automobile fire apparatus is being discussed.

Elkton, Md.—Citizens have subscribed nearly \$600 to Singlerly Fire Co. toward purchase of automobile truck.

Fall River, Mass.—At last meeting of board of aldermen of Fall River additional appropriation of \$2,000 for motor apparatus for chief and deputy was requested by Fire Commission.

Medford, N. J.—Medford voters have passed bond issue of \$2,000 for new fire house and steel bell tower.

Moorestown, N. J.—Moorestown fire commissioners have fixed year's budget at \$4,000, increase of \$1,100, which will be used to purchase auto truck for Relief engine company. This will be submitted to voters on May 31.

Paterson, N. J.—Recommendations for converting truck No. 1 and engines Nos. 6 and 9 from horse-drawn to motor-propelled machines have been made by fire chief.

Roselle, N. J.—Bids will be received at 8 p. m., June 6, for purchase of fire truck bonds in sum of \$10,000. Jacob Ostrander, Borough Clerk.

Babylon (L. I.), N. Y.—Purchase of motor hose wagon is being considered.

Rochester, N. Y.—Clerk Frank X. Pifer has been directed by Board of Contract and Supply to advertise for bids on Exchange st. fire house on site opposite police headquarters. While no estimate has been officially placed on contract, it is estimated that cost will be \$35,000 or \$36,000.

Woodhull, N. Y.—Purchase of chemical engine has been voted for.

Rocky Mount, N. C.—Purchase of motor apparatus is being considered by fire committee.

Akron, O.—Ordinance has been introduced in council providing for issuing of \$9,000 worth of bonds, to build new fire station on North Hill. New station will replace House No. 7.

Philadelphia, Pa.—Bill has been passed providing \$100,000 for purchase of fire apparatus.

Windsor, Ont., Can.—Purchase of motor apparatus is being considered.

CONTRACTS AWARDED.

Sacramento, Cal.—For motor apparatus, as follows: Gorham Engineering Co., one pumping engine, \$9,500; Knox Automobile Co., one combination chemical and hose wagon, \$5,600.

Indianapolis, Ind.—By board of public works to William P. Jungclauss Co., for erection of new fire station on Maryland street, at \$53,357.

Donaldsonville, La.—By city council, to B. Lemann & Brother, representing the Gutta Percha & Rubber Mfg. Co., contract for supplying fire department with 500 ft. of hose at \$1.25 per ft.

Millbury, Mass.—To D. Arthur Burt & Co., eastern representatives of Seagrave Co., for one 6-cylinder, 80 h.p. air cooled combination chemical and hose car, equipped with drawbar for towing steam fire engine.

Manchester, N. H.—By committee, for 1,000 ft. of hose to Cornelius Callahan of Boston.

Camden, N. J.—By Fire Committee of City Council to American La France Fire Engine Co., for new apparatus aggregating expenditure of \$22,500. The new apparatus in this contract includes one aerial truck, a combination engine, hose wagon and chemical engine and a tractor.

Akron, O.—To A. W. LaFrance Fire Engine Co. of Elmira, N. Y., for rebuilding of one of city's horse-drawn fire engines at \$2,100.

Carlisle, Pa.—To Martin Carriage Works, of York, Pa., contract by Friendship Fire Co., for one 35 h.p. motor combination chemical and hose wagon with complete equipment, and capable of carrying 1,000 ft. of 2½-in. hose at \$3,600.

York, Pa.—By fire committee and city council, to Larkin Mfg. Co., Dayton, O., for Buckley hydraulic hose expander equipped with hose testing device, a Larkin shut-off and spray nozzle and two Bresman revolving cellar nozzles.

Austwell, Tex.—Contract has been let to American La France Fire Engine Co. of Elmira, N. Y., for chemical fire engine, a hose reel and 400 feet of hose.

BRIDGES

Texarkana, Ark.—West Side city council has decided to hold election for purpose of passing on \$225,000 bonds for bridge and street improvements and \$60,000 bonds for extension to sewer system.

Lafayette, Ind.—County council have voted in favor of \$12,000 for repairs to Main street bridge.

Shelbyville, Ind.—Bond issue of \$80,000 bridge and highway repair bonds have been sold to Miller & Co. of Indianapolis.

Bangor, Me.—The engineer's office is preparing specifications for two spans for new approach to Bangor and Brewer bridge. These will be completed shortly and advertisements will be inserted in papers calling for bids on the work.

Amsterdam, N. Y.—Bonds in sum of \$100,000 have been voted for construction of new bridge over Mohawk river.

Herkimer, N. Y.—Resolution has been approved asking for \$65,000 to erect West Canada Creek bridge.

Wapakoneta, O.—Fifty thousand dollars' worth of 5 per cent. bonds issued for purpose of paying for repairing of bridges in county damaged by flood in March have been sold by Auglaize county commissioners to Hoehler & Cummings, of Toledo.

Philadelphia, Pa.—Bridges authorized are as follows: 10th street, under the Tabor branch of the Reading Railway, city's share, \$25,000; 10th street, under Philadelphia & Newtown Connecting R. R., city's share, \$25,000; 84th street, over Darby creek, city's share, \$30,000; on G street, over Connecting Ry., city's share, \$20,000; Tabor street, over Tacony creek, \$16,500; 58th street, under Philadelphia & Baltimore Central R. R., \$48,000; Luzerne street, over Oxford road branch of Connecting Ry., city's share, \$10,500. There was \$200,000 in loan bill for new bridges.

White River Junction, Vt.—Citizens have voted to construct bridge over White River to replace one destroyed by floods; estimated cost, \$33,500.

Manitowac, Wis.—A \$50,000 bascule bridge will be built to replace present structure at Eighth st., council having approved report of bridge committee.

CONTRACTS AWARDED.

Red Bluff, Cal.—Supervisors of Tehama county have awarded contract for building Antelope creek bridge to McCartney & Ewing for \$907.

Crawfordsville, Ind.—To William F. Slattery, Crawfordsville, contract for construction of seven bridges at \$4,500.

Rushville, Ind.—To Burke Construction Co. of New Castle, contract for constructing J. D. White bridge at \$5,900, and J. W. Anderson bridge, at \$5,360.

Shreveport, La.—Contract has been awarded to F. C. Barbour, of Echo, to build approach to new Red River wagon bridge, Bossier end, for 26 cents a cubic yard. Work will cost approximately \$10,000.

Baltimore, Md.—Stewart, Jones & Co. and the Claiborne-Johnson Co., bidding jointly for Fallsway viaduct contract, have been awarded that contract by Board of Awards. Their bid, lowest of nine received, was \$190,693.15.

Columbus, O.—E. E. Elford has been awarded contract for construction of bridge over Olentangy river in this city, contract price being \$57,583.

McConnellsville, O.—To Oregonian Bridge Co., of Lebanon, contract for constructing superstructure of McConnellsville-Malta bridge, over Muskingum river, to replace one recently destroyed by flood, at \$46,400.

Sidney, O.—For constructing concrete arch bridge over Mosquito creek in Green township, has been awarded to the Hackedown Contracting Co., of Indianapolis, Ind., for \$7,287.

Woonsocket, R. I.—S. Brien & Son, and J. C. N. Bouvier, contractors of this city, have been awarded contract for building of Harrison ave bridge, so-called, by aldermanic committee on streets and bridges for about \$14,000.

Janesville, Wis.—Contract for new state bridge at Hanover has been let to Elkhart Bridge Co. It will cost \$4,500.

MISCELLANEOUS

Los Angeles, Cal.—Shed plans and elevations proposed for municipal pier No. 1 at harbor have been submitted to board of public works by harbor commission. Before sheds can be constructed

it will be necessary to obtain municipal art commission's approval of plans.

San Francisco, Cal.—Board of works has requested supervisors to set aside \$5,000 for City Engineer's department so that plans, specifications and assessment maps for Twin Peaks tunnel may be prepared.

Miami, Fla.—Citizens have approved of \$25,000 bond issue for building and equipping incinerators.

Albany, Ga.—Ordinance passed on its first reading by city council calls for election to be held July 24 on \$100,000 issue of improvement bonds.

Belvidere, Ill.—Installation of police alarm system is being considered.

Mishawaka, Ind.—City Controller J. L. Kennedy has been authorized to write wagon manufacturers for best prices on dump and garbage wagons.

Baton Rouge, La.—Sum of \$12,000 has been voted for public abattoir.

Lake Charles, La.—W. E. Phillips has completed plans for new Allen Parish \$25,000 Jail, which is to be built at Oberlin during the summer. Plans and specifications will be ready to submit to Police Jury June 4. Structure will be two stories high.

Boston, Mass.—Mayor Fitzgerald recommends appropriation of \$400,000 for improvements and new buildings to hospitals at Levy Island.

St. Paul, Minn.—Bonds in sum of \$250,000 have been approved for park board.

Buffalo, N. Y.—It is expected that park commissioners on June 10th will award contract for reducing park space at Lafayette Square and increasing roadway. Work will probably be completed by September. Improvement, it is believed, will cost about \$19,000.

Mamaroneck, N. Y.—Village Board is discussing proposition for free collection and disposal of garbage.

Oswego, N. Y.—Preliminary steps for putting in operation garbage collection and disposal system in Oswego will be taken shortly.

Schenectady, N. Y.—Two park ordinances are to be introduced at meeting of common council, one authorizing \$300,000 bond issue for inauguration of park system here, and second ordinance establishing right of park commission to recommend all properties to be purchased by city for park purposes.

Schenectady, N. Y.—Ordinance authorizing bond issue of \$10,000 for erection of public comfort station and band stand for Crescent park will be introduced into council.

White Plains, N. Y.—J. B. Rider, South Norwalk, Conn., has prepared plans for a garbage incinerator to cost about \$30,000.

White Plains, N. Y.—Ten-ton road roller will be purchased for street department.

Rocky Mount, N. C.—Election for \$255,000 bond issue for permanent municipal improvement has been carried.

Columbus, O.—Ordinance has been passed to provide for issuance of bonds for purchase of motor driven police apparatus for city of Columbus, bonds to be in sum of \$8,500. John T. Barr is Clerk.

Wilkes-Barre, Pa.—Bids have been opened for road oil to be used on unpaved streets of city, but contract was not awarded. Specifications call for nearly 7,000 gallons of oil. Bids were: Texas Oil Co., 4½ cts. f. o. b. at refinery; Warner-Quinn Co., 6 cts., delivered in city; Lehigh Oil Co., 6¼ cts., freight

paid by city; H. A. Cassedy, asphalt, 6¼ cts., and road oil, 6 cts.; Paine & Co., 6½ cts., and United Gas Improvement Co., 6-10 cts. Mr. Cassedy agreed to furnish and apply the asphaltic preparation for 12 cts. a gallon and road oil for 7¼ cts.

Memphis, Tenn.—Bids will be received shortly by Ennis M. Douglas, City Clk., for constructing garbage crematory of 50 tons daily capacity.

Dublin, Tex.—Architect's plans for new 8-story county jail for Dallas county has been formally accepted by Dallas county commissioners. It will cost \$300,000.

Superior, Wis.—Board has authorized workhouse committee to prepare plans and advertise for bids for construction of workhouse not to cost more than \$12,000. This is considerable reduction from original appropriation which was \$25,000.

CONTRACTS AWARDED.

St. Augustine, Fla.—City council has let contract to C. S. Young Construction Company of Jacksonville for placing tide flood gate at South st. bridge across Maria Sanchez creek. Bids on flood gate were following: Seth Perkins, Jr., St. Augustine, \$1,550; W. J. Armour, Jacksonville, \$1,400; C. S. Young Construction Company, Jacksonville, \$1,248.50.

Springfield, Ill.—For erection of concrete retaining wall at Cook street subway to Henry Fehler at \$1,575.

New Orleans, La.—Only one bid has been received by sewerage and water board for furnishing fuel oil for central and Algiers pumping stations. It was from Standard Oil Co., which offered from 20,000 to 50,000 barrels for central power station at \$1.12½ per barrel and 600 barrels for Algiers Station No. 8 at \$1.16½ per barrel. It has been referred to Superintendent George Earl for recommendation.

New Bedford, Mass.—For construction of new third district court house in this city, contracts have been awarded to lowest bidders. Consequently main contracting job, that of building new structure, goes to William A. Borden of Fall River at \$50,000. Work of plumbing and installing gas fixtures goes to Jeremiah Coholan of New Bedford, whose bid was \$2,975. Heating and ventilating contract was awarded to F. E. Earle of New Bedford, whose bid was \$6,900.

Hallock, Minn.—For new sheriff's residence and jail for Kittson county to Johnson Construction Co., Fargo, N. D., at \$15,699. For jail work and cells to Stewart Iron Works, Cincinnati, O., at \$7,148.

Manchester, N. H.—Aldermanic committee has voted to purchase a Rambler automobile for fire chief at cost of \$1,924.

Poughkeepsie, N. Y.—By Common Council, for removal of garbage, to William Storm, at \$4,500, and for removal of ashes to James Davis, at \$3,500.

White Plains, N. Y.—For removal of garbage and ashes to Thomas Flood, at \$8,750.

Pittsburgh, Pa.—Contracts have been awarded as follows: Sale of rails: 125 tons of 45-lb. T rails to the Newhall Engineering Co. at \$17.65 a ton; 175 tons of 80-lb. grooved rails held over; 200 tons of 80-lb. grooved rails to Henry Braun at \$11.15 a ton; 150 tons of 35-lb. T rails to Newhall Engineering Co. at \$17.65 a ton.



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